

EXHIBIT 15

CONFIDENTIAL INFORMATION UNDER THE PROTECTIVE ORDER

13 CONFIDENTIAL INFORMATION UNDER THE PROTECTIVE ORDER

15 VIDEOTAPED DEPOSITION OF ANTHONY J. LI

16 | Palo Alto, CA

17 | Monday, February 1, 2016

18 | Volume I

19

21 | Reported by: SUSAN F. MAGEE, RPR, CCRR, CLR

22 CSR No. 11661

23 | JOB No. 2224600

25 | PAGES 1-258

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6	INC,)	6	EXAMINATION BY PAGE
7	Plaintiff,)	7	BY MR. WONG 9
8	vs) No 5:14-cv-05344-BIF (PSG)	8	BY MR. PAK 191
9	ARISTA NETWORKS,)	9	
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12	_____	12	
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15	CONFIDENTIAL INFORMATION UNDER THE	15	
16	PROTECTIVE ORDER VIDEO DEPOSITION OF ANTHONY J. LI	16	
17	taken on behalf of Defendant at WILSON, SONSINI,	17	
18	GOODRICH & ROSATI, 601 South California Avenue,	18	
19	Palo Alto, CA 94304, beginning at 9:13 a.m. and	19	
20	ending at 4:17 p.m. on Monday, February 1, 2016,	20	
21	before Susan F. Magee, RPR, CCRR, CLR, Certified	21	
22	Shorthand Reporter No. 11661	22	
23		23	
24		24	
25		25	
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1	APPEARANCES:	1	EXHIBITS
2		2	NUMBER DESCRIPTION PAGE
3	For the Plaintiff:	3	
4	QUINN, EMANUEL, URQUHART & SULLIVAN	4	Exhibit 136 LinkedIn Profile (8 pages) 12
5	BY: SEAN PAK, ESQ.	5	Exhibit 137 RFC Table (3 pages) 90
6	50 California Street	6	Exhibit 138 March 1995 RFC 1771, A Border 100
7	22nd Floor	7	Gateway Protocol 4 (BGP-4) (57
8	San Francisco, CA 94111	8	pages) 105
9	(415) 875-6600	9	Exhibit 139 December 1995 RFC 1887, An
10	seanpak@quinnemanuel.com	10	Architecture for IPv6 Unicast
11		11	Address Allocation,
12	For the Defendant:	12	ARISTANDCA00025747-ARISTANDCA
13	KEKER & VAN NEST LLP	13	00025772
14	BY: RYAN WONG, ESQ.	14	Exhibit 140 June 1996 RFC 1966, BGP Route 111
15	BRIAN L. FERRALL, ESQ.	15	Reflection, An Alternative to
16	633 Battery Street	16	Full Mesh IBGP,
17	San Francisco, CA 94111-1809	17	ARISTANDCA00025927-ARISTANDCA
18	(415) 773-6682	18	00025933
19	rwong@kvn.com	19	Exhibit 141 October 2008 RFC 2966, 116
20	bferrall@kvn.com	20	Domain-Wide Prefix Distribution
21		21	with Two-Level IS-IS (16 pages)
22	The Videographer:	22	Exhibit 142 August 1996 RFC 1997, BGP 119
23	JEFREE ANDERSON	23	Communities Attribute,
24		24	ARISTANDCA00026094-ARISTANDCA
25		25	00026098
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1	EXHIBITS (continued)		1	Palo Alto, CA, Monday February 1, 2016
2	NUMBER	DESCRIPTION	2	9:13 a.m.
3			3	
4	Exhibit 143 March 1998 RFC 2281, Cisco Hot Standby Router Protocol (HSRP), ARISTANDCA00026832-ARISTANDCA 00026848		4	THE VIDEOGRAPHER: Good morning. We're on
5			5	the record at 9:13 a.m. on February 1st, 2016. This 09:13:47
6			6	is the video recorded deposition of -- so sorry. Of
7			7	Anthony Li here with our court reporter Susan Magee.
8	Exhibit 144 E-mail String Containing 9/22/92 E-mail from/to Toni Li, TS-00000066		8	My name is Jefree Anderson. We are here
9			9	from Veritext Legal Solutions at the request of
10			10	counsel for the -- defendant or the plaintiff? 09:14:16
11	Exhibit 145 Procket Networks PRO/8000 Series Software Introduction (144 pages)		11	MR. WONG: Defendants.
12			12	THE VIDEOGRAPHER: For the defendant. This
13			13	deposition is being held at Wilson Sonsini at
14	Exhibit 146 Procket Networks PRO/8000 Series IPv6 Routing Protocols (180 pages)		14	14 601 California Avenue, Palo Alto, California. The
15			15	caption of this case is Cisco Systems, Incorporated 09:14:31
16			16	vs. Arista Networks, Incorporated. The case number
17	Exhibit 147 Procket Networks PRO/8000 Series System Management and Operations (604 pages)		17	17 is 5:14-cv-05344.
18			18	Please note that audio and video recording
19			19	will take place unless all parties agree to go off
20	Exhibit 148 Cisco's 6th Supplemental Response to Interrogatory NO. 16 and Response to Interrogatory No. 19 Amended Exhibit F (45 pages)		20	20 the record, and microphones are sensitive and may 09:14:53
21			21	pick up whispers, private conversations and cellular
22			22	interference; so please be aware of that.
23			23	Beginning with our noticing attorney,
24			24	please state your name and the firm you represent.
25	Exhibit 149 List of Commands (1 page)		25	MR. WONG: Ryan Wong from Keker & Van Nest 09:15:05
				Page 8
1	EXHIBITS (continued)		1	for defendant Arista Networks.
2	NUMBER	DESCRIPTION	2	MR. FERRALL: Brian Ferrall, Keker & Van
3			3	Nest, also for Arista.
4	Exhibit 150 1/20/96 E-mail from Toni Li to Bill W., CSI-CLI-00746246		4	MR. PAK: Sean Pak of Quinn for Cisco.
5			5	THE VIDEOGRAPHER: Thank you. 09:15:16
6	Exhibit 151 CSCdi14533, CSI-CLI-01339850		6	Will the court reporter please swear in the
7	Exhibit 152 Group of E-mails Containing 2/23/1996 E-mail from Tony Li to widmer@cisco.com, CSI-CLI-00746331 - CSI-CLI-00746347		7	witness.
8			8	
9			9	ANTHONY J. LI,
10			10	having been administered an oath, was examined and 09:15:19
11			11	testified as follows:
12			12	
13			13	EXAMINATION BY MR. WONG
14			14	
15	Q. Good morning, Mr. Li. 09:15:29		15	Q. Good morning, Mr. Li.
16	A. Good morning.		16	16 A. Good morning.
17	Q. Please state your full name.		17	17 Q. Please state your full name.
18	A. Anthony Joseph Li.		18	18 A. Anthony Joseph Li.
19	Q. Do you live in the Bay Area, Mr. Li?		19	19 Q. Do you live in the Bay Area, Mr. Li?
20	A. I do. 09:15:36		20	20 A. I do.
21			21	21 [REDACTED]
22			22	[REDACTED]
23			23	[REDACTED]
24	Q. Mr. Li, do you understand that are you testifying here in response to a subpoena in this 09:15:46		24	24 Q. Mr. Li, do you understand that are you
25			25	25 testifying here in response to a subpoena in this 09:15:46
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<p>1 DEC systems, also had several IBM systems. VMCMS is 2 an operating system for IBM mainframes, and USC had 3 one and I had an account on the VM system. 4 Q. And what was the command syntax like for 5 the CLI on VMCMS? 09:45:55</p> <p>6 A. I'm sorry. I don't remember. 7 Q. You mentioned RSX-IIM? 8 A. It's IIM. 9 Q. IIM. Sorry. 10 A. This was an operating system for PDP-11s. 09:46:06</p> <p>11 Q. What are PDP-11s? 12 A. That was a computer built by 13 Digital Equipment Corporation. 14 Q. Do you recall the command syntax of the 15 command line interface used on the RSX-IIM? 09:46:25</p> <p>16 A. No, I'm sorry. I don't. 17 Q. You mentioned that the LinkedIn profile 18 that we marked as Exhibit 136 did not have your full 19 work history? 20 A. Correct. 09:46:46</p> <p>21 Q. What work history is missing from your 22 LinkedIn profile? 23 A. In particular the sys admin positions that 24 I mentioned, summer internships predating. There 25 were several of those. Full-time positions that are 09:46:59</p>	<p>1 projects throughout the router. I started off doing 2 mostly maintenance work and answering customer 3 questions. I then had several development projects. 4 My first development project was implementing 5 something called TCP header compression. 09:48:41</p> <p>6 Q. And after you worked on TCP header 7 compression, what else did you work on while at 8 Cisco? 9 A. I had numerous routing -- small projects 10 within routing extending various interfaces and 09:48:58</p> <p>11 extending protocols as necessary. 12 My next big project was actually working on 13 BGP, Border Gateway Protocol. 14 BY MR. WONG: Q. You mentioned TCP header 15 expression. What does TCP mean? 09:49:22</p> <p>16 A. That's Transmission Control Protocol. It's 17 part of the Internet Protocol suite. 18 Q. Is TCP an industry standard? 19 A. It is. 20 Q. Was it an industry standard at the time you 09:49:37</p> <p>21 worked on it at Cisco? 22 A. It was. 23 Q. What standard-setting body produced the TCP 24 standard? 25 A. That's a difficult question. The TCP 09:49:49</p>
<p>Page 30</p> <p>1 not relevant to my professional experience, 2 particularly while I was in high school. 3 Q. Sure. After you graduated from USC, what 4 did you do then? 5 A. So I -- next fall I went to Rutgers and 09:47:20</p> <p>6 spent a year there, hated it and immediately 7 transferred to USC. 8 Q. Oh, I'm sorry. My question was after you 9 graduated from USC, what did you do after that? 10 A. After USC? So I graduated in September 09:47:38</p> <p>11 of 1990. I worked on a postdoc at USC with 12 Deborah Estrin and then took a position at 13 Cisco Systems. 14 Q. Do you know when you started at 15 Cisco Systems? 09:47:53</p> <p>16 A. January 14th, 1991. 17 Q. Why did you join Cisco after graduating 18 from USC? 19 A. Lack of a better job. 20 Q. Did you apply elsewhere besides Cisco? 09:48:02</p> <p>21 A. I did. 22 Q. And describe for me the projects that you 23 worked on while you worked at Cisco starting in 24 1991. 25 A. I worked on a wide, wide variety of 09:48:22</p>	<p>Page 32</p> <p>1 standard was really a product of -- I guess the 2 ARPANET project, but this actually predates IETF 3 being accepted as a standards-making body, which is 4 a whole book in itself. Great deal of politics 5 behind that. So it was a de facto standard 09:50:16</p> <p>6 effectively. 7 Q. What do you mean by "de facto standard"?</p> <p>8 A. Which meant that the industry used it and 9 it was publicly available, everyone was free to 10 adopt it, and yet it did not have the backing of a 09:50:36</p> <p>11 formal standards body such as the IEEE. 12 MR. PAK: I'll object to this line of 13 questioning as calling for expert testimony. 14 BY MR. WONG: Q. Now, you said that the 15 TCP standard was really a product of ARPANET; 09:51:10</p> <p>16 correct? 17 A. Correct. 18 Q. What is ARPANET? 19 A. ARPANET was a project from the Defense 20 Department's Advanced Research Projects Agency to 09:51:18</p> <p>21 build a network for computers that was highly robust 22 and relayed data between computers efficiently. 23 Q. How do you know that, Mr. Li? 24 A. Having worked on it for many, many years 25 and been involved with it as soon as it became 09:51:34</p>

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1 available to USC and Rutgers.	1 A. IETF.
2 Q. And by "it," you mean ARPANET?	2 Q. What does HTTP stand for?
3 A. ARPANET.	3 A. Hypertext Transfer Protocol.
4 Q. You mentioned that TCP was part of an	4 Q. You mentioned RIP; correct?
5 Internet Protocol suite. Is that what you said? 09:51:47	5 A. Correct. 09:54:18
6 A. Correct.	6 Q. What does -- is that -- is that called RIP
7 Q. Were there any other protocols that were	7 by the industry?
8 part of the Internet Protocol suite?	8 A. Normally pronounced that way, yes.
9 A. Many.	9 Q. What does RIP stand for?
10 Q. Can you list off for me the protocols that 09:51:55	10 A. Routing Information Protocol. 09:54:27
11 you remember being part of the Internet Protocol	11 Q. Routing Information Protocol is also part
12 suite.	12 of the Internet Protocol suite you mentioned?
13 A. I'll give you a small set. HTTP; BGP; RIP,	13 A. It is.
14 R-I-P; DNS; DHCP. I could go on, but Susan's	14 Q. Is Routing Information Protocol an industry
15 fingers are going to fall off. 09:52:17	15 standard? 09:54:43
16 Q. You mentioned HTTP.	16 A. Yes, it is.
17 Is HTTP an industry standard?	17 Q. How long has Routing Information Protocol
18 A. It is.	18 been an industry standard?
19 Q. How do you know that?	19 A. I don't know when the RFC came out.
20 A. There is an RFC on it. I don't know what 09:52:31	20 Q. And what is the standard-setting body that 09:54:56
21 its exact standard status is but I believe it's at	21 manages the RIP protocol?
22 least proposed standard.	22 A. IETF.
23 Q. And how long has HTTP been an industry	23 Q. You mentioned DHCP?
24 standard, to your knowledge?	24 A. Correct.
25 MR. PAK: Calls for expert testimony. 09:52:49	25 Q. What does DHCP stand for? 09:55:09
Page 34	Page 36
1 THE WITNESS: Approximately 1992.	1 A. Dynamic Host Configuration Protocol.
2 BY MR. WONG: Q. And how do you know that,	2 Q. And is DHCP also an industry standard?
3 Mr. Li?	3 A. It is.
4 A. I first used a Web browser about that time,	4 Q. How do you know that, Mr. Li?
5 and had some involvement in developing a Web server 09:53:02	5 A. I've read the RFC. 09:55:21
6 for the Cisco router.	6 Q. What is the standard-setting body that
7 Q. You mentioned BGP?	7 manages DHCP?
8 A. Correct.	8 A. The IETF.
9 Q. What does BGP stand for?	9 Q. How long has DHCP been an industry
10 A. Border Gateway Protocol. 09:53:23	10 standard, to your knowledge? 09:55:42
11 Q. And BGP was part of the Internet Protocol	11 A. Since the early '90s.
12 suite?	12 Q. And how do you know that, Mr. Li?
13 A. Yes, it was.	13 A. He read the RFC.
14 Q. Was BGP also an industry standard?	14 Q. Back in the early '90s?
15 A. It is. 09:53:33	15 A. Yes. 09:55:51
16 Q. And how do you know that, Mr. Li?	16 Q. Why were you -- strike that.
17 A. I helped write the latest RFC on that.	17 Besides HTTP, BGP, RIP and DHCP, are there
18 Q. How long has BGP been an industry standard,	18 any other well-known protocols that are part of the
19 to your knowledge?	19 Internet Protocol suite?
20 A. BGP? 09:53:48	20 A. Many. 09:56:13
21 Q. BGP.	21 Q. Can you list for me a few more well-known
22 A. BGP has been an industry standard since	22 protocols from the Internet Protocol suite?
23 approximately 1993.	23 A. Well, the base protocol is IP, Internet
24 Q. And what is the standard-setting body that	24 Protocol. On top of that we have DNS, the Domain
25 established BGP as an industry standard? 09:54:02	25 Name System. There's the File Transfer Protocol, 09:56:40
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<p>1 FTP; the Simple Mail Transfer Protocol, SMTP; Post 2 Office Protocol, POP; IMAP which is another mail 3 protocol. 4 Q. And the protocols you just mentioned, are 5 all of them industry standards, to your knowledge? 09:57:04 6 A. They are. 7 Q. What standard-setting body manages the 8 Internet Protocol? 9 A. Internet Engineering Task Force. 10 Q. And what standard-setting body manages the 09:57:17 11 DNS protocol? 12 A. IETF. 13 Q. Is the IETF the standard-setting body for 14 each of the protocols you just mentioned? 15 A. Yes. 09:57:31 16 Q. We just went through several acronyms for 17 different industry standard protocols; correct? 18 A. Yes. 19 Q. Was "HTTP" a well-known term used in the 20 networking industry at the time that you first 09:58:00 21 started working with it? 22 A. No, it was not well-known. 23 Q. When did you start working with HTTP again? 24 A. Very early '90s. Probably '92, '93 time 25 frame. 09:58:17</p>	Page 38	Page 40
<p>1 Q. Did HTTP ever become a well-known acronym 2 in the industry? 3 A. Yes. It's very well-known. 4 Q. It's very well-known today? 5 A. Today. 09:58:27 6 Q. Do you approximately when HTTP became a 7 well-known acronym, to your knowledge? 8 MR. PAK: Objection. Calls for expert 9 testimony. 10 THE WITNESS: Approximately 1995. 09:58:33 11 BY MR. WONG: Q. Why do you say 1995, 12 Mr. Li? 13 A. That's when most people started using the 14 Web. 15 Q. Let's go back to your description of 09:58:40 16 responsibilities when you were working at Cisco 17 starting in 1991. 18 The last thing you mentioned was that you 19 started working on a BGP project; correct? 20 A. Correct. 09:59:07 21 Q. Describe for me what that BGP project 22 entailed. 23 A. So my starter project on BGP was to upgrade 24 it from BGP Version 2 to Version 3 of the protocol. 25 This involved adding a small mechanism for resolving 09:59:21</p>	<p>1 another router via a link of some flavor. 2 Communications channel. 3 Q. Was "router" a commonly used term at the 4 time that you were working on this BGP project for 5 Cisco? 10:01:17 6 A. It was. It's also known as a gateway in 7 some circumstances. 8 Q. Were there any particular routers that your 9 project applied to? 10 A. In particular it applied to the Cisco AGS 10:01:42 11 Plus and the remainder of Cisco's product line at 12 the time. 13 Q. After you worked on this BGP project, what 14 else did you do at Cisco? 15 A. I've worked on many different things. The 10:02:10 16 silicon switch engine, various other routing 17 protocol maintenance tasks, the router called GSR. 18 Q. And just to be clear, Mr. Li, are we 19 talking about the time period where you first 20 started working at Cisco in 1991? 10:02:37 21 A. That was just the '91 through '96 time 22 frame. 23 Q. Now, you mentioned performing various other 24 routing protocol maintenance tasks. 25 What other routing protocols did you work 10:02:54 Page 41</p>	Page 41

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<p>1 with during this 1991 through 1996 time period at 2 Cisco? 3 A. Everything else in the IP protocol suite 4 within Cisco. This includes RIP, IGRP, EIGRP, EGP, 5 OSPF, IS-IS. I also had my hands in some of the 10:03:14 6 CLNS stack. 7 Q. What is OSPF? 8 A. Open Shortest Path First routing protocol 9 from the IETF. 10 THE REPORTER: Would you mind repeating 10:03:43 11 that. I'm sorry. 12 THE WITNESS: Open Shortest Path First 13 routing protocol from the IETF. 14 THE REPORTER: Thank you. 15 BY MR. WONG: Q. And the RIP and the IGRP 10:03:51 16 you just mentioned, those are the same RIP and IGRP 17 you were discussing earlier today; correct? 18 A. Yes. 19 Q. You mentioned IS-IS. 20 What is IS-IS? 10:04:00 21 A. This is another routing protocol that comes 22 from the ISO protocol stack and the OSI standards 23 body. It supports routing for both CLNP and IP. 24 Q. What is CLNP? 25 A. Connectionless Network Protocol. 10:04:25</p>	Page 42	<p>1 A. The standard -- the standard for IS-IS. 2 MR. PAK: Ryan, when you get a chance, can 3 we take a break? We've been going for about an 4 hour. 5 MR. WONG: Sure. We can take a break now. 10:05:45 6 THE WITNESS: Thank you. 7 THE VIDEOGRAPHER: Going off the record. 8 The time is 10:05. 9 (Recess taken from 10:05 a.m. to 10 10:11 a.m.) 10:11:25 11 THE VIDEOGRAPHER: We're back on the 12 record. The time is 10:11. 13 BY MR. WONG: Q. Mr. Li, you used the 14 acronym BGP to refer to the Border Gateway Protocol; 15 correct? 10:11:46 16 A. Correct. 17 Q. Is BGP a commonly known acronym for Border 18 Gateway Protocol? 19 A. No, not common. 20 Q. Okay. Is it a -- strike that. 10:11:54 21 Why do you use the term "BGP" to refer to 22 the Border Gateway Protocol? 23 A. So that's the acronym that is used within 24 the industry. 25 Q. When you say that's the acronym that's used 10:12:10</p>	Page 44
<p>1 Q. And is that protocol also an industry 2 standard? 3 A. It is. 4 Q. What is the standard-setting body that 5 manages CLNP? 10:04:37 6 A. ISO. 7 Q. What is ISO? 8 A. International Standards Organization. 9 Although that's more formally it's -- the official 10 name is in French, so . . . 10:04:53 11 Q. When you were talking about IS-IS, you 12 mentioned the OSI standards body. 13 Do you remember that? 14 A. That's correct. 15 Q. What is the OSI standards body? 10:05:04 16 A. Open systems -- I don't remember the full 17 expansion. Sorry. 18 Q. Okay. So who was the standard-setting body 19 for IS-IS? 20 A. I believe that was -- falls under ISO which 10:05:20 21 is the child of OSI. 22 Q. And how do you know that, Mr. Li? 23 A. I've read the document. 24 Q. When you say "the document," do you mean 25 the -- 10:05:34</p>	Page 43	<p>1 within the industry, you're referring to the BGP 2 acronym; correct? 3 A. Correct. 4 Q. And when you say "the industry," what do 5 you mean by "the industry"? 10:12:21 6 A. Computer network. 7 Q. And how long as BGP been used as an acronym 8 within the computer networking industry, to your 9 knowledge? 10 A. Since BGP was first introduced, which I 10:12:42 11 believe was approximately 1989. 12 Q. Okay. And why do you use the term "RIP" or 13 R-I-P to refer to Router Information Protocol? 14 A. That is the common acronym used for that 15 protocol. 10:13:21 16 Q. In the networking industry? 17 A. In the networking industry. 18 Q. And how long has RIP been a commonly used 19 acronym in the networking industry? 20 A. I don't know. 10:13:30 21 MR. PAK: Objection. Calls for expert 22 testimony. 23 BY MR. WONG: Q. Okay. But to your 24 knowledge, it is a commonly used acronym in the 25 networking industry today? 10:13:39</p>	Page 45

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<p>1 A. It is.</p> <p>2 Q. Do you know when you first started using</p> <p>3 the acronym RIP?</p> <p>4 A. 1991 when I came to Cisco.</p> <p>5 Q. And did you come up with the acronym RIP? 10:13:48</p> <p>6 A. No, I did not.</p> <p>7 Q. Where did you get that acronym from?</p> <p>8 A. I heard it from coworkers first.</p> <p>9 Q. And you did not come with the acronym BGP;</p> <p>10 correct? 10:14:07</p> <p>11 A. Correct.</p> <p>12 Q. Where did you first hear the acronym BGP?</p> <p>13 A. From discussions on a Usenet mailing list.</p> <p>14 Q. What is a Usenet mailing list?</p> <p>15 A. Usenet was a system for exchanging 10:14:23</p> <p>16 messaging in a broadcast fashion, and there were</p> <p>17 groups within that where people would circulate</p> <p>18 messages. And so there was a discussion of routing</p> <p>19 protocols, and I heard about it first through that.</p> <p>20 Q. And what time period are you talking about 10:14:45</p> <p>21 here when you first heard the acronym BGP?</p> <p>22 A. This would be somewhere between about 1985</p> <p>23 to 1990.</p> <p>24 Q. So that was before you started working at</p> <p>25 Cisco; correct? 10:15:01</p>	<p>1 working for Cisco in 1991?</p> <p>2 A. Approximately three.</p> <p>3 Q. What was your familiarity with the command</p> <p>4 line interface on Cisco's routers before you started</p> <p>5 working at Cisco in 1991? 10:16:30</p> <p>6 A. So I used Cisco's CLI for those three years</p> <p>7 between '87 and 1991.</p> <p>8 Q. What level of familiarity -- strike that.</p> <p>9 Was OSPF a well-known acronym in the</p> <p>10 networking industry? Actually, strike that. 10:17:02</p> <p>11 Is OSPF a well-known acronym in the</p> <p>12 networking industry?</p> <p>13 A. Yes, it is very well-known.</p> <p>14 Q. And when did you first hear of the acronym</p> <p>15 OSPF, Mr. Li? 10:17:12</p> <p>16 A. As part of my employment at Cisco.</p> <p>17 Q. Approximately when did you hear -- first</p> <p>18 hear of OSPF?</p> <p>19 A. About 1992.</p> <p>20 Q. Approximately how long has "OSPF" been a 10:17:23</p> <p>21 well-known term in the networking industry, to your</p> <p>22 knowledge?</p> <p>23 MR. PAK: Objection. Calls for expert</p> <p>24 testimony.</p> <p>25 THE WITNESS: I suspect at least 1989. 10:17:32</p>	
<p>1 A. Correct.</p> <p>2 Q. Is "IGRP" also a commonly used term in the</p> <p>3 networking industry?</p> <p>4 A. It is.</p> <p>5 Q. And how long, to your knowledge, has "IGRP" 10:15:17</p> <p>6 been a commonly used term in the networking</p> <p>7 industry?</p> <p>8 MR. PAK: Objection. Calls for expert</p> <p>9 testimony.</p> <p>10 THE WITNESS: I recall seeing it very early 10:15:24</p> <p>11 on. I first learned about it in 1987.</p> <p>12 BY MR. WONG: Q. And you did not come up</p> <p>13 with the acronym IGRP; right?</p> <p>14 A. No, I did not.</p> <p>15 Q. Do you recall how you first learned about 10:15:38</p> <p>16 the acronym IGRP?</p> <p>17 A. So I was asked to administer a Cisco router</p> <p>18 in 1987 and was -- did Cisco training and learned</p> <p>19 about IGRP through that training.</p> <p>20 Q. And that was before you joined Cisco in 10:15:58</p> <p>21 1991; right?</p> <p>22 A. That's correct. I was a customer before an</p> <p>23 employee.</p> <p>24 Q. How many years of experience did you have</p> <p>25 working with Cisco routers before you started 10:16:15</p>	<p>Page 46</p> <p>1 BY MR. WONG: Q. Why do you say that,</p> <p>2 Mr. Li?</p> <p>3 A. So there's work started on OSPF early on</p> <p>4 prior to my joining Cisco and prior to my learning</p> <p>5 about it, and I believe that was about '89. 10:17:44</p> <p>6 Q. When you say there was work started on</p> <p>7 OSPF, what are you referring to by that?</p> <p>8 A. This is work in the IETF to specify the</p> <p>9 protocol.</p> <p>10 Q. And how did you know that there was work 10:18:02</p> <p>11 started on OSPF by the IETF around 1989?</p> <p>12 A. So there was a discussion list about it,</p> <p>13 and I looked at some of the history of OSPF and looked</p> <p>14 at the RFC that subsequently came out. I knew that</p> <p>15 folks had been working on it for quite some time. 10:18:33</p> <p>16 Q. Who was participating in the discussion</p> <p>17 list about OSPF at that 1989 time period?</p> <p>18 A. I --</p> <p>19 MR. PAK: Objection. Calls for</p> <p>20 speculation. 10:18:48</p> <p>21 THE WITNESS: So John Moy, Milo Medin,</p> <p>22 Vince Fuller, Cathy Wittbrodt. Don't remember the</p> <p>23 rest.</p> <p>24 BY MR. WONG: Q. And how do you know those</p> <p>25 individuals you just named were part of the 10:19:12</p>	<p>Page 48</p> <p>Page 49</p>

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<p>1 discussion of OSPF in 1989?</p> <p>2 A. I subsequently worked with them as part of</p> <p>3 IETF and learned of their involvement with OSPF.</p> <p>4 Q. You worked -- strike that.</p> <p>5 When did you work with those individuals as 10:19:31</p> <p>6 part of the IETF?</p> <p>7 A. I started working with them in 1991.</p> <p>8 Q. What companies, if you recall, did those</p> <p>9 individuals work for?</p> <p>10 A. John Moy represented Proteon. Milo Medin 10:19:50</p> <p>11 worked for NASA. Cathy Wittbrodt was at</p> <p>12 Energy Sciences Network at -- as part of</p> <p>13 Lawrence Livermore Labs.</p> <p>14 Q. Did any other vendors -- strike that.</p> <p>15 Did any other companies or organizations 10:20:20</p> <p>16 besides the ones you just mentioned participate in</p> <p>17 OSPF standardization?</p> <p>18 MR. PAK: Objection. Calls for</p> <p>19 speculation. Calls for expert testimony.</p> <p>20 THE WITNESS: So I'm certain that several 10:20:32</p> <p>21 others did. The best way to check would be to look</p> <p>22 at the IETF attendance records.</p> <p>23 BY MR. WONG: Q. When you say you're</p> <p>24 certain that several others did, why are you so</p> <p>25 certain? 10:20:43</p>	<p>1 standard?</p> <p>2 A. Not offhand.</p> <p>3 Q. Is IS-IS a well-known acronym in the</p> <p>4 networking industry?</p> <p>5 A. Largely, no. 10:22:41</p> <p>6 Q. How do you know the IS-IS acronym?</p> <p>7 A. I'm part of a small group who've made use</p> <p>8 of the protocol.</p> <p>9 Q. Is IS-IS a well-known acronym amongst those</p> <p>10 who make use of the IS-IS protocol? 10:23:01</p> <p>11 A. Yes, it is.</p> <p>12 Q. Why is it a smaller group that makes use of</p> <p>13 the IS-IS protocol?</p> <p>14 A. So IS-IS is part of the ISO protocol stack</p> <p>15 which ended up not having a significant market 10:23:15</p> <p>16 share, and thus there's a very small user base.</p> <p>17 Only a very small portion of the Internet -- IP</p> <p>18 networking industry ended up using IS-IS, and so the</p> <p>19 number of people that use IS-IS for IP routing is</p> <p>20 very, very small. 10:23:38</p> <p>21 Q. How long has IS-IS been a well-known</p> <p>22 acronym amongst those who make use of the IS-IS</p> <p>23 protocol, to your knowledge?</p> <p>24 A. At least 1991.</p> <p>25 Q. And when did -- when did you first hear of 10:23:50</p>
<p>Page 50</p> <p>1 A. The IETF typically has dozens of people</p> <p>2 operating, working together on any given protocol.</p> <p>3 Q. And how do you -- how do you know that,</p> <p>4 Mr. Li?</p> <p>5 A. So that's -- I started participating in the 10:20:57</p> <p>6 IETF in 1991, and that's their standard way of</p> <p>7 working.</p> <p>8 Q. How many years have you been participating</p> <p>9 in the IETF since 1991?</p> <p>10 A. I participated quite consistently up and 10:21:15</p> <p>11 through about -- from 1991 to about 1999, and then</p> <p>12 it's been sporadic since then.</p> <p>13 Q. When you say the IETF typically has dozens</p> <p>14 of people working together on any given protocol,</p> <p>15 are those people from the same company or different 10:21:42</p> <p>16 companies?</p> <p>17 MR. PAK: Objection. Calls for</p> <p>18 speculation. Vague.</p> <p>19 THE WITNESS: Typically the group --</p> <p>20 working groups that are working on a protocol draw 10:21:54</p> <p>21 people from all sorts of different companies and</p> <p>22 organizations.</p> <p>23 BY MR. WONG: Q. Can you think of any</p> <p>24 protocols from the IETF where different</p> <p>25 organizations did not participate in creating the 10:22:12</p>	<p>Page 52</p> <p>1 the IS-IS acronym?</p> <p>2 A. 1991 when I joined Cisco.</p> <p>3 Q. Is "IP" a well-known industry term in the</p> <p>4 networking industry?</p> <p>5 A. Very well. 10:24:07</p> <p>6 Q. In your view, what other acronyms are as</p> <p>7 well-known as IP in the networking industry?</p> <p>8 MR. PAK: Objection. Calls for expert</p> <p>9 testimony.</p> <p>10 THE WITNESS: TCP, TCP/IP, WWW. 10:24:19</p> <p>11 BY MR. WONG: Q. How long has IP been a</p> <p>12 well-known acronym in the networking industry?</p> <p>13 A. At least since 1983.</p> <p>14 Q. And when did you first learn of the acronym</p> <p>15 IP? 10:24:44</p> <p>16 A. Approximately 1984 I took a class in</p> <p>17 computer networking and read the -- first read the</p> <p>18 RFCs on IP.</p> <p>19 Q. Is BGP a -- let me start that again.</p> <p>20 Is "BGP" a well-known term in the 10:25:25</p> <p>21 networking industry?</p> <p>22 A. It is.</p> <p>23 Q. How long has "BGP" been a well-known term</p> <p>24 in the networking industry?</p> <p>25 MR. PAK: Objection. Calls for expert 10:25:34</p>

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1 testimony.	1 What did that entail, maintaining DHCP
2 THE WITNESS: Probably since about 1993.	2 relay functionality in Cisco IOS?
3 BY MR. WONG: Q. And why do you say that	3 A. Means that I had to look at the source
4 "BGP" has been a well-known term in the networking	4 code, read the DHCP RFC, test the behavior of the
5 industry since 1993? 10:25:47	5 Cisco DHCP relay and then repair the functionality 10:28:49
6 A. I'm an expert in BGP.	6 in the source code as necessary.
7 Q. Why do you say that you are an expert in	7 Q. At some point, Mr. Li, you left Cisco's
8 BGP?	8 employment; correct?
9 A. I helped deploy BGP throughout the	9 A. Several times.
10 Internet. 10:26:00	10 Q. When you started at Cisco in 1991, when did 10:29:12
11 Q. What did you do to help deploy BGP	11 you leave?
12 throughout the Internet?	12 A. I believe it was 1996.
13 A. So I was responsible for maintaining and	13 Q. What did you do after you left Cisco in
14 enhancing BGP. I was responsible for doing a great	14 1996?
15 deal of bug fixing to BGP. And as part of that, I 10:26:17	15 A. After a while I joined Juniper Networks. 10:29:28
16 ended up reimplementing much of Cisco's BGP code and	16 Q. And what was Juniper's business at the
17 replacing the vast majority of the code that they	17 time?
18 had.	18 A. Juniper was a startup in the computer
19 Q. And when did you first hear of the acronym	19 networking space.
20 BGP? 10:26:43	20 Q. What was Juniper's main product at the 10:29:41
21 A. Again, I believe it was in the late '80s as	21 time?
22 part of the Usenet group.	22 A. They had no product initially, and their
23 Q. Is "DNS" a well-known term in the	23 first product was a router, the M40, and I believe
24 networking industry?	24 that came out in 1998.
25 A. It is. 10:27:07	25 Q. Did you work on the M40 Juniper router? 10:29:59
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1 Q. How long has "DNS" been a well-known term	1 A. I did.
2 in the networking industry, Mr. Li?	2 Q. Now, you said Juniper had no product
3 A. At least since late '80s.	3 initially.
4 Q. When did you first learn of the term "DNS"?	4 Did they have no product when you joined
5 A. I was a sys admin at USC at the time. 10:27:19	5 them in 1996? 10:30:16
6 Could have been anywhere from '83 on.	6 A. That's correct. We were a startup. We
7 Q. How do you know that "DNS" has been a	7 had -- I was Employee No. 5. We had an office, and
8 well-known term in the networking industry since the	8 that was it.
9 late 1980s?	9 Q. Who were Juniper's competitors?
10 A. So I would help convert USC from using 10:27:40	10 A. At the time it was Cisco. I believe Pluris 10:30:30
11 host.txt, which was previous system, to using DNS.	11 came along shortly thereafter, but I don't know
12 Q. Is "DHCP" a well-known term in the	12 exactly when. There was another company called
13 networking industry?	13 NetStar. Wellfleet. Proteon had not quite gone
14 A. It is.	14 under.
15 Q. How long has "DHCP" been a well-known term 10:28:00	15 That's all I can remember. 10:31:03
16 in the networking industry?	16 Q. Now, you said you were Employee No. 5;
17 A. I don't know.	17 correct?
18 Q. When did you first hear of the acronym	18 A. Correct.
19 DHCP?	19 Q. Where did the other first employees at
20 A. Probably 1991. 10:28:08	20 Juniper come from? 10:31:15
21 Q. Why do you think you first heard of DHCP in	21 A. So the founder Pradeep Sindhu was coming
22 1991?	22 out of Xerox PARC and Sun. Bjorn Liencres I believe
23 A. I helped maintain DHCP relay functionality	23 was Sun. Dennis Ferguson, I knew him through IETF,
24 in Cisco IOS.	24 and he was at -- running CAnet, although I don't
25 Q. What did that -- strike that. 10:28:21	25 know who he was affiliated with. 10:31:36
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1 tried to sell?	1 Q. I'm sorry. Did you say 1984?
2 A. There were two products, 8812 and 8801.	2 A. 2004. Excuse me.
3 Both of these were high-end Internet routers.	3 Q. How do you know that, Mr. Li?
4 Q. When you say "high-end Internet routers,"	4 A. So as founder and stockholder in the
5 what do you mean by that? 10:37:11	5 company, I was involved in the legal proceedings. 10:40:40
6 A. These are routers that had high bandwidth.	6 Q. So you were a founder of Procket Networks,
7 The 8801 was a 40-gigabit router, 8812 was a	7 Mr. Li?
8 480-gigabit router, and both of these spoke Internet	8 A. I was.
9 Protocol only.	9 Q. Were there multiple founders of
10 Q. You say both of these spoke Internet 10:37:30	10 Procket Networks? 10:40:54
11 Protocol only.	11 A. There were three. The other two are
12 You're referring -- does Internet Protocol	12 Bill Lynch and Sharad Mehrotra.
13 mean IP?	13 Q. How did you decide to create
14 A. Yes, it does.	14 Procket Networks, Mr. Li?
15 Q. What other protocols -- strike that. 10:37:45	15 A. So I was introduced to Procket Networks by 10:41:10
16 Are there any other protocols that a router	16 Stuart Phillips who had been my boss at Cisco, and
17 could speak besides IP?	17 he introduced me to these two gentlemen who were
18 A. There are many.	18 working on a network processor at the time.
19 Q. Can you give me two or three examples of	19 Once we started discussing their business
20 protocols that a router could speak besides IP? 10:38:05	20 venture of building a network processor, it became 10:41:28
21 A. DECnet, IPX, Xms, Apollo.	21 very apparent that they were going to have to build
22 Q. Who were Procket's competitors?	22 a demo system to demonstrate how to implement their
23 A. Primarily Cisco and Juniper.	23 network processor. And from there it seemed like it
24 Q. And why do you say that?	24 would be very, very simple to make a small change
25 A. They had the overwhelming majority of 10:38:41	25 and build a full router out of it. 10:41:48
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1 market share at the time.	1 Q. So building a full router was not the
2 Q. Market share in high-end Internet routers?	2 initial idea for Procket Networks; is that right?
3 A. Yes.	3 A. No, it was not.
4 Q. And what were the competing Juniper	4 Q. You mentioned Stuart Phillips?
5 products to the Procket Networks product? 10:39:01	5 A. That's correct. 10:42:01
6 A. The M160 was the Juniper product, and the	6 Q. And you said that Mr. Phillips had been
7 Cisco product was the GSR and later the CRS.	7 your boss at Cisco; correct?
8 Q. You said the GSR; is that correct?	8 A. Correct.
9 A. That's correct.	9 Q. And that was during the 1991 to 1996 time
10 Q. Does GSR stand for anything? 10:39:28	10 period? 10:42:16
11 A. Yes, but I don't remember exactly what.	11 A. At the end of it, yes.
12 Gateway switch router, but . . .	12 Q. Was Mr. Phillips still at Cisco when --
13 Q. And correct me if I'm wrong, did you work	13 A. No, he was not. He was a venture
14 on the GSR when you worked at Cisco between 1991 and	14 capitalist at U.S. Venture Partners.
15 1996? 10:39:49	15 Q. Was Mr. Phillips one of the founders of 10:42:31
16 A. Yes, I did. I helped with the initial	16 Procket Networks?
17 design phases.	17 A. No, he was not.
18 Q. Is Procket Networks still in business?	18 Q. Was Mr. Phillips -- what was Mr. Phillips'
19 A. No, it is not.	19 involvement in Procket Networks?
20 Q. What happened to Procket Networks? 10:39:57	20 A. So he was the representative from USVP who 10:42:43
21 A. It was acquired by Cisco in 2004. Strike	21 was trying to fund and encourage Procket to grow.
22 that. Let me be more specific.	22 Q. And did USVP fund Procket Networks?
23 The intellectual property and the majority	23 A. It did.
24 of the assets were acquired by Cisco in 1984. The	24 Q. Did Mr. Phillips have any -- strike that.
25 company itself was put in the receivership. 10:40:24	25 What was Mr. Phillips' involvement in the 10:43:12
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<p>1 you would automatically set up all of the VPN 2 connectivity.</p> <p>3 Q. What did you do after you consulted for 4 Verio?</p> <p>5 A. I'm not certain, but I believe that was -- 10:48:56 6 then I went back to Cisco at that point.</p> <p>7 Q. And approximately when -- and feel free, 8 Mr. Li, to look at Exhibit 136.</p> <p>9 A. Thank you.</p> <p>10 Q. When did you return to Cisco for your 10:49:19 11 second stint?</p> <p>12 A. So it was fall of 2004.</p> <p>13 Q. And what did you do at Cisco when you 14 returned in 2004?</p> <p>15 A. So I joined the group working on IOS XR and 10:49:29 16 specifically helped on the BGP protocol.</p> <p>17 Q. What is IOS XR?</p> <p>18 A. This was a rewrite of Cisco's IOS operating 19 system in an attempt to do so in a modular fashion.</p> <p>20 Q. And you specifically helped on the BGP 10:49:56 21 protocol.</p> <p>22 Is that BGP the same BGP we've been talking 23 about today?</p> <p>24 A. It was.</p> <p>25 Q. What type of help did you provide with 10:50:03</p>	<p>1 A. I joined another networking firm called 2 Tropos Networks. Worked in the WiFi mesh arena.</p> <p>3 Q. How long were you at Tropos Networks?</p> <p>4 A. About nine months.</p> <p>5 Q. Okay. Why did you leave Tropos? 10:51:32</p> <p>6 A. I did not find the environment acceptable.</p> <p>7 Q. And what did you do after you left -- 8 strike that.</p> <p>9 When did you leave Tropos Networks?</p> <p>10 A. So I returned to Cisco, I believe, in 2008. 10:51:50</p> <p>11 Q. And how did you come to return to Cisco for 12 your third time working there?</p> <p>13 A. Correction. That was 2006. And that 14 was -- I returned there to help with working on a 15 compiler for a network processor that Cisco was 10:52:11 16 building.</p> <p>17 Q. And did you reach out to Cisco to work on 18 that project?</p> <p>19 A. I did. I talked to Bill Lynch, who is my 20 supervisor, and reported to him. 10:52:30</p> <p>21 Q. And how long did you work at Cisco for this 22 third period of time?</p> <p>23 A. About one year.</p> <p>24 Q. Can you describe for me what your work 25 involved on the compiler for the network processor. 10:53:00</p>
<p>1 respect to the BGP protocol for IOS XR?</p> <p>2 A. So my first task was to help with some of 3 the locking features inside of BGP. There were 4 numerous performance problems that the 5 implementation had, and I was improving performance 10:50:21 6 by converting some of the locking primitives to 7 faster mechanisms.</p> <p>8 Q. How did you come to return to Cisco in 9 2004?</p> <p>10 A. I was interested in working with my friends 10:50:35 11 again.</p> <p>12 Q. So did you approach Cisco for the position?</p> <p>13 A. I did.</p> <p>14 Q. And how long did you work at Cisco for that 15 second period of time? 10:50:47</p> <p>16 A. So approximately a year.</p> <p>17 Q. And what did you do after that?</p> <p>18 A. Then I left to join another network, 19 another company called Portola Networks that I 20 started with my friend Vito Palermo. 10:51:03</p> <p>21 Q. How long were you at Portola?</p> <p>22 A. Only a few months. We attempted to get 23 funding. We did not. I decided to move on.</p> <p>24 Q. What did you do after you left 25 Portola Networks? 10:51:19</p>	<p>1 A. So the network processor we were developing 2 was an offshoot and derivative from -- of the 3 technology used at Procket for forwarding packets. 4 At Procket we were hand-coding this in machine code 5 with the assistance of some macros, but this was not 10:53:19 6 very productive.</p> <p>7 We observed that we could be more 8 productive if we had a higher-level language to work 9 in. I had some experience in programming 10 languages, so I set out to prototype the C compiler 10:53:34 11 that actually worked for this network processor.</p> <p>12 And this is challenging because the 13 architecture of the network processor is 14 substantially unlike a standard computer.</p> <p>15 Q. You said it was an offshoot from the 10:53:57 16 technology at Procket Networks?</p> <p>17 A. Yes.</p> <p>18 Q. How was it an offshoot from the technology 19 from Procket?</p> <p>20 A. So at Procket we had pioneered use of the 10:54:07 21 systolic array of processors. This is a set of 22 cores, CPU -- small CPUs inside of the chip, and the 23 cores are arranged linearly, logically, and 24 processing happens by passing context from one core 25 to the next in a fully synchronous fashion. 10:54:28</p>

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<p>1 Q. What was your involvement in -- strike 2 that. 3 What is Exhibit 139? 4 A. It appears to be a copy of RFC 1887. 5 Q. What was your involvement in RFC 1887, 11:46:30 6 Mr. Li? 7 A. So Yakov and I coauthored or coedited this 8 document in an attempt to document a routing 9 protocol architecture -- a routing architecture for 10 IPv6. 11:46:45 11 Q. What is IPv6? 12 A. That is the next version of the Internet 13 Protocol. What a widely deployed right now today is 14 known as IPv4. It has the problem that it does not 15 have enough address space and can only support about 11:46:59 16 4 billion hosts. 17 IPv6 is a -- the next version that has been 18 approved by the IETF and we're currently 19 transitioning to IPv6, slowly. 20 Q. We're currently transitioning today, you 11:47:17 21 mean? 22 A. Yes. Twenty years and counting. 23 Q. And I'm sorry. What was the date on the 24 document marked as Exhibit 138, Mr. Li? 25 A. That appears to be March 1995. 11:47:33</p>	Page 106	<p>1 acronym was designated by the IETF. 2 Q. What do you mean, "this acronym was 3 designated by the IETF"?" 4 A. So the IETF, in selecting this protocol to 5 migrate to, decided that we should all refer to 11:49:10 6 version 6 of the protocol as IPv6. 7 Q. And how do you know that the IETF decided 8 that we all should refer to version 6 of the IP 9 protocol as IPv6? 10 A. I was there as part of the discussion. 11:49:27 11 Q. What vendors were part of that discussion? 12 A. I'm sorry. I don't recall. 13 Q. Were there more than one vendor part of 14 that discussion? 15 A. Yes, many. 11:49:40 16 Q. Do you recall if Cisco was part of that 17 discussion? 18 A. I believe so. 19 Q. Do you recall if Juniper was part of that 20 discussion? 11:49:48 21 A. I believe so. 22 Q. Were there any other acronyms relating to 23 routing protocols that the IETF decided should be 24 used to refer to those protocols? 25 A. Yes, many. 11:50:05</p>	Page 108
<p>1 Q. Was this document -- strike that. 2 When was the first version of the document 3 marked as 138 completed, to your knowledge? 4 A. I would have to check my notes to be 5 precise but somewhere approximately 1994. 11:48:04 6 Q. Turning back to Exhibit 139, Mr. Li, what 7 is the date on this document? 8 A. December 1995. 9 Q. Is that the publication date for this RFC? 10 A. Yes, it is. 11:48:19 11 Q. And was the document that is shown 12 Exhibit 139, was that completed before the 13 publication date shown on Exhibit 139? 14 A. Yes, it was. 15 Q. Do you know approximately when? 11:48:34 16 A. Somewhere between '93 and '94. 17 Q. Did you come up with the term "IPv6," 18 Mr. Li? 19 A. No, I did not. 20 Q. Do you know who? 11:48:42 21 A. No. Can't be specific. 22 Q. Is IPv6 a well-known acronym in the 23 networking industry? 24 A. Yes, it is. It is a well-known acronym for 25 Internet Protocol version 6, and this -- this 11:48:53</p>	Page 107	<p>1 Q. What protocols did the IETF decide that 2 everyone in the network industry should use in 3 addition to IPv6? 4 MR. PAK: Objection. Calls for expert 5 testimony. 11:50:18 6 THE WITNESS: So OSPF, BGP, RSVP, LDP, 7 HTTP. 8 BY MR. WONG: Q. Was "IS-IS" a -- a 9 term -- strike that. 10 Did the IETF have any role in the decision 11:50:50 11 for IS-IS to be used by the networking industry? 12 A. Somewhat. Again, IS-IS was originally 13 standardized outside of the IETF. The IETF had the 14 responsibility of managing the usage of IS-IS for 15 Internet Protocol routing. 11:51:14 16 Q. And to your knowledge, Mr. Li, based on 17 your experience working in the industry, did various 18 vendors use those acronyms that you just listed out 19 for me? 20 A. Yes, frequently. 11:51:38 21 Q. To what extent was there any belief that 22 these acronyms for routing protocols were 23 proprietary to any single vendor? 24 MR. PAK: Objection. Calls for 25 speculation. 11:51:58</p>	Page 109

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<p>1 THE WITNESS: So the acronyms were never 2 proprietary.</p> <p>3 BY MR. WONG: Q. And on what facts do you 4 base that opinion, Mr. Li?</p> <p>5 A. So the acronyms were never published with a 6 trademark or copyright notice attached to them.</p> <p>7 Q. Did you ever believe personally that the 8 use of OSPF, BGP, IP or any of the other acronyms 9 that we've been discussing today were proprietary to 10 any vendor? 11:52:32</p> <p>11 A. No.</p> <p>12 Q. In your experience at multiple companies in 13 the networking industry, did anybody else that you 14 worked with express the belief to you that any of 15 these acronyms were proprietary to any vendor? 11:52:48</p> <p>16 A. No.</p> <p>17 Q. So in the 25 years that you have been 18 working in the networking industry, you have not 19 heard anybody express the belief that any of these 20 acronyms were proprietary to a single vendor? 11:53:08</p> <p>21 A. That's correct.</p> <p>22 Q. Turning back to Exhibit 139, Mr. Li, first 23 page further down, second paragraph from the bottom, 24 the word "domain" is used.</p> <p>25 Do you see that? 11:53:23</p>	Page 110	<p>1 by the court reporter and is attached hereto.)</p> <p>2 BY MR. WONG: Q. The court reporter has 3 marked as Exhibit 140 a document bearing Control 4 Nos. ARISTANDCA00025927 to -25933.</p> <p>5 Mr. Li, have you seen this document before? 11:55:28</p> <p>6 A. I believe so.</p> <p>7 Q. What is the document marked as Exhibit 140?</p> <p>8 A. It appears to be a copy of RFC 1966, BGP 9 Route Reflection.</p> <p>10 Q. Did you -- what was your involvement, if 11 any, in the creation of the document marked as 12 Exhibit 140?</p> <p>13 A. So I helped discuss many of the concepts in 14 this document. As part of the development and 15 deployment of BGP, we found that we had numerous 16 scalability issues that we needed to overcome. 17 There were several approaches proposed. I helped 18 work on the Route Reflection proposal. 19 Some of the original work was proposed by 20 Dmitry Haskin of Bay Networks. And as part of the 21 IDR working group, we jointly discussed and came up 22 with this proposal. 23 Mr. Bates and Mr. Chandra eventually wrote 24 up the actual document as you see it here. 25 Q. What is BGP Route Reflection? 11:56:34</p>	Page 112
<p>1 A. Yes.</p> <p>2 Q. Did you come up with the word "domain"?</p> <p>3 A. No, I did not.</p> <p>4 Q. Do you know who did?</p> <p>5 A. I believe that was Dr. Rechter. 11:53:31</p> <p>6 Q. Do you know when Dr. Rechter came up with 7 the name "domain"?</p> <p>8 A. I believe that he came up with that term 9 during the work for IDR, and that flowed -- and it 10 is semantically equivalent to Autonomous System, and 11:53:49</p> <p>11 it flowed from his work in IDR into both this 12 document and the BGP specification.</p> <p>13 Q. And how do you -- how do you know that, 14 Mr. Li?</p> <p>15 A. Direct work with both of those 11:53:58</p> <p>16 specifications.</p> <p>17 Q. Okay. By the time of this RFC, 18 December 1995, was "domain" a well-known industry 19 term?</p> <p>20 MR. PAK: Objection. Vague. 11:54:10</p> <p>21 THE WITNESS: No, it was not well-known and 22 still is not very well-known.</p> <p>23 MR. WONG: Let's mark this one as 140, 24 please.</p> <p>25 (Exhibit 140 was marked for identification 11:54:45</p>	Page 111	<p>1 A. BGP Route Reflection is a mechanism for 2 taking routing information and reflecting it from 3 one router to another through a third router. This 4 allows for better scalability because it fixes the 5 problem where BGP previously had where all BGP 6 routers within a particular AS had to be directly 7 interconnected. That led to some significant 8 computational and configuration management 9 challenges.</p> <p>10 Q. Who came up with the phrase "Route 11:57:17 11 Reflection"?</p> <p>12 A. I believe, but I'm not certain, that that 13 would be Mr. Haskin.</p> <p>14 Q. And Mr. Haskin, to your recollection, 15 worked for Bay Networks? 11:57:33</p> <p>16 A. It may have been Wellfleet at the time.</p> <p>17 Q. And just by implication from your answer, 18 was Wellfleet acquired by Bay Networks?</p> <p>19 A. Bay and -- I'm sorry.</p> <p>20 Yes. Bay -- Bay was the merger of Synoptix 11:57:52 21 and Wellfleet, and I believe he was on the Wellfleet 22 side.</p> <p>23 Q. And why do you think that Mr. Haskin came 24 up with the phrase "Route Reflection"?</p> <p>25 A. So I believe he was the first one at IDR 11:58:11</p>	Page 113

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<p>1 know that, Mr. Li?</p> <p>2 A. That was policy of the IETF and has been 3 well-recited many times within the IETF.</p> <p>4 Q. Mr. Li, do you know what the parser police 5 is? 12:15:02</p> <p>6 A. I believe you're referring to a mailing 7 list within Cisco.</p> <p>8 Q. What is your understanding of the parser 9 police?</p> <p>10 A. So this was a group of people who were 12:15:18 11 selected to review, pass judgment and comment on 12 changes to the CLI.</p> <p>13 Q. Were you a member of the parser police, 14 Mr. Li?</p> <p>15 A. I believe I was the original instigator of 12:15:35 16 the parser police and was certainly a proactive 17 member of it.</p> <p>18 Q. And what time period were you a member of 19 the parser police, approximately?</p> <p>20 A. From the time it was founded in the early 12:15:47 21 '90s.</p> <p>22 Q. What was the purpose of the parser police?</p> <p>23 A. So Cisco's engineering culture did not 24 provide for any mechanism for ensuring any kind of 25 consistency of the implementation of the CLI. The 12:16:04</p>	<p>1 extending the CLI past where it had previously been.</p> <p>2 We wanted to extend it in a way that was largely</p> <p>3 consistent with prior work.</p> <p>4 Q. What would you do to try to achieve what 5 you call the principle of least surprise? 12:18:18</p> <p>6 A. So we would change the syntax or the 7 semantics of commands to the CLI -- and this 8 includes configure commands -- to match previous 9 semantics.</p> <p>10 Q. When you say "previous semantics," what do 12:18:31 11 you -- what do you mean by "previous semantics"?</p> <p>12 A. So matching the syntax and the meaning of 13 previous commands already in the system.</p> <p>14 Q. Besides changing the syntax to match 15 previous semantics, is there anything else that the 12:19:03 16 parser police would try to do to achieve the 17 principle of least surprise to the customer?</p> <p>18 A. Not that I can think of.</p> <p>19 MR. WONG: Why don't we take our lunch 20 break. 12:19:46</p> <p>21 THE WITNESS: Okay.</p> <p>22 THE VIDEOGRAPHER: Going off the record.</p> <p>23 The time is 12:19.</p> <p>24 (Luncheon recess taken from 12:19 p.m. to 25 1:05 p.m.) 01:05:04</p>
<p>Page 126</p> <p>1 parser police was a response to that need to try to 2 get people organized and try to ensure that other 3 engineers had a process whereby they could submit 4 work for review and get comments back and help us 5 create a much more standardized CLI. 12:16:25</p> <p>6 Q. What do you mean by "standardized CLI"?</p> <p>7 A. So it will be helpful to the customer if 8 the CLI operated the same or largely the same way 9 throughout the product. Without this, we ended up 10 with a -- different CLI commands that did radically 12:16:44</p> <p>11 different things yet said the same thing to the 12 customer base, or worse, two functions that had to 13 be performed that did largely the same thing and yet 14 their CLI syntax was widely different.</p> <p>15 Q. Why is it helpful to the customer if the 12:17:04</p> <p>16 CLI operates in the same or largely the same way 17 throughout the product?</p> <p>18 A. Again, it is useful for giving consistency 19 which simplifies the user's experience.</p> <p>20 Q. Besides consistency to the customer, were 12:17:35</p> <p>21 there any other goals that the parser police had for 22 the Cisco command line interface?</p> <p>23 A. We would try to achieve what we called 24 principle of least surprise. We would try to give a 25 design that a user would expect. Frequently we were 12:17:56</p>	<p>Page 128</p> <p>1 AFTERNOON PROCEEDINGS:</p> <p>2</p> <p>3 THE VIDEOGRAPHER: We are back on the 4 record. The time is 1:05.</p> <p>5 BY MR. WONG: Q. Mr. Li, before -- before 01:05:15</p> <p>6 the break when you were talking about your time at 7 USC, you mentioned that you did some Cisco training?</p> <p>8 A. Yes, I did.</p> <p>9 Q. Do you recall if Cisco paid for that 10 training? 01:05:33</p> <p>11 A. I don't know who paid for it. It was 12 either Cisco or another regional network known as 13 Surfinet or the other regional network known as 14 Los Gatos.</p> <p>15 Q. Now, we were talking about the parser 01:05:47</p> <p>16 police before the break.</p> <p>17 To what extent, if at all, was the use of 18 industry-standard terminology encouraged in Cisco's 19 command sets?</p> <p>20 MR. PAK: Objection. Vague. 01:06:10</p> <p>21 THE WITNESS: So the use of 22 industry-standard terminology was encouraged largely 23 by the engineering community of which much of 24 Cisco's development was driven by simply because it 25 minimized confusion. It was discouraged by the 01:06:25</p>

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<p>1 marketing team who, as far as I could tell, wanted 2 to encourage confusion. 3 BY MR. WONG: Q. And why do you say that 4 the marketing team wanted to encourage confusion? 5 A. They seem today prefer to introduce their 01:06:44 6 own new terminology. 7 Q. And on what facts are you basing your 8 testimony that the use of industry-standard 9 terminology was encouraged by the engineering 10 community? 01:06:58 11 A. So again, the principle of least surprise 12 meant that, when we could used a standardized term, 13 we probably should because that's what the customer 14 base would be expecting. 15 Q. And did you encourage the use of 01:07:09 16 standardized terms when you were on the parser 17 police? 18 A. As much as possible. 19 Q. To what extent, if at all, did you work 20 with other vendors to come up with any of the 21 commands used in Cisco IOS? 22 A. We did not work with other vendors for 23 that. 24 Q. Have you -- strike that. 25 During your time working at Cisco, had you</p>	<p>1 directly with Cisco customers? 2 A. So there was a mailing list, cs@cisco.com. 3 This was gatewayed into the mailboxes of various 4 engineers. I caught a lot of the IP routing 5 questions, and so I ended up having e-mail exchanges 01:09:16 6 with customers. 7 We frequently also had training classes, 8 and there was an interaction between customers and 9 engineers every Wednesday afternoon. We had -- 10 would have a little party/reception for the 01:09:34 11 customers which was fondly known as beer and 12 cookies, and we would sit and hang out and toss 13 things around. 14 I was also sometimes called upon into sales 15 calls to have discussions with customers directly. 01:09:54 16 Q. Is it from that experience that you are 17 aware of networking errors occurring as a result of 18 customers being unfamiliar with Cisco's CLI command 19 sets? 20 A. Yes. 01:10:06 21 Q. You mentioned training classes in your 22 prior answer. 23 Can you expand upon the type of training 24 classes that you participated in while at Cisco. 25 A. So the only one I actually participated in 01:10:16</p>
<p>Page 130</p> <p>1 ever heard of network errors occurring as a result 2 of a user's unfamiliarity with Cisco's CLI? 3 MR. PAK: Objection. 4 THE WITNESS: Yes. It was very common for 5 users to have configuration errors, and that 01:07:54 6 resulted in network problems. 7 BY MR. WONG: Q. And what was the cause of 8 those configuration errors that you're talking 9 about? 10 A. Could have been anything. Unfamiliarity 01:08:08 11 with the command, unfamiliarity with the concepts, 12 simple typos. 13 Q. And how do you know that configuration 14 errors were caused by unfamiliarity with commands? 15 A. So we would quickly get e-mail from 01:08:30 16 customers requesting help with particular 17 situations, and it was very obvious that the 18 customer was trying to do one thing, had attempted 19 to configure the router in one way and had done 20 something that did not cause what they were trying 01:08:47 21 to do. 22 Q. And did you have communications with 23 customers while you were working at Cisco? 24 A. Frequently. 25 Q. In what context did you have interactions 01:08:57</p>	<p>Page 132</p> <p>1 was while I was a customer only, and that was 2 several days -- I think two days -- and we basically 3 went through at the time the entire Cisco command 4 set as part of training exercise. 5 Q. And that participation as a customer, when 01:10:32 6 did that happen? 7 A. About 1987. 8 Q. And is that training how you became 9 familiar with the Cisco IOS command line interface? 10 A. That and reading the manual. 01:10:53 11 Q. Who paid for training that you took in the 12 1987 time period? 13 A. Again, I'm not certain who paid for it. It 14 was one of Cisco, Surfnet, Los Altos -- Los Nettos 15 or USC. 01:11:14 16 Q. Were you aware from your time working at 17 Cisco of network errors occurring because of 18 confusion over CLI commands? 19 A. Frequently. 20 Q. And is that also from your direct 01:11:31 21 interaction with Cisco customers? 22 A. It was from my direct interaction with 23 Cisco customers and certainly my own usage of 24 Cisco's command line. I certainly made a handful of 25 mistakes. 01:11:46</p>

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<p>1 BY MR. WONG: Q. You also worked at 2 Juniper; correct? 3 A. Yes, I did. 4 Q. What were the similarities or differences 5 between how Juniper would provide training to its 01:22:37 6 customers' engineers on how to use Juniper's command 7 line interface as compared to Cisco's approach? 8 A. I was less involved in Juniper, but I 9 believe that they did largely the same thing. 10 Q. What's the basis for that belief? 01:22:55 11 A. That's what I saw going on in the hallways, 12 so . . . 13 Q. Did Procket Networks provide training to 14 the engineers of its customers? 15 A. Yes, very much so. We did exactly the same 01:23:07 16 thing. A lot of in-house training, a lot of 17 external documentation. 18 Q. And in -- so at all three of those vendors 19 that you worked for, the customers would pay the 20 vendor either directly or indirectly to provide 01:23:28 21 training to their engineers; correct? 22 A. Yes. 23 MR. PAK: Objection. Calls for 24 speculation. 25 BY MR. WONG: Q. And you know that because 01:23:36 Page 142</p>	<p>1 this e-mail. 2 A. Okay. 3 Q. Please take a moment to take a look at the 4 e-mail in Exhibit 144. 5 A. Mm-hmm. 01:25:26 6 Q. And the e-mail address on this e-mail, one 7 of the e-mails is tli@cisco.com. 8 Do you see that? 9 A. Yes. 10 Q. Is that your e-mail address? 01:25:36 11 A. Yes. Or was. 12 Q. Was that -- 13 A. Was at the time, yes. 14 Q. And who is Peter Lothberg? 15 A. That's a complicated answer. Peter was a 01:25:47 16 contractor. As of 1992, I believe he was reporting 17 to the International Connection Manager Project that 18 was under contract to Sprint from NSF. 19 Q. Now, in this e-mail on Exhibit 144 on the 20 first page it says, "We are getting lots of pressure 01:26:20 21 to improve the user interface." 22 Do you see that? 23 A. Mm-hmm. 24 Q. Do you know what that's referring to, 25 Mr. Li? 01:26:33 Page 144</p>
<p>1 of your personal experience working at all three of 2 those vendors; correct? 3 A. Yes. 4 Q. Did the Cisco CLI follow a command syntax? 5 A. It tried to. 01:23:54 6 Q. What do you mean by "it tried to"? 7 A. It was inconsistently applied, and so it 8 was difficult from command to command to say what 9 the syntax was going to be. 10 MR. WONG: What exhibit number are we on? 01:24:19 11 THE REPORTER: 144. 12 MR. WONG: Let's mark this one as 144. 13 (Exhibit 144 was marked for identification 14 by the court reporter and is attached hereto.) 15 BY MR. WONG: Q. Okay. The court reporter 01:24:35 16 has marked as Exhibit 144 a document bearing Control 17 No. TS-00000066 to -67. 18 And for the record, the top portion of 19 first page of this exhibit has been redacted under 20 the protective order. 01:24:56 21 Mr. Li, just for your understanding, 22 communications that you either sent or received we 23 can show you under the protective order. The 24 portion that has been redacted is a communication 25 that you were not on, and so we have redacted it on 01:25:15 Page 143</p>	<p>1 A. Yes. There were lots of complaints about 2 the CLI. There were many people in the industry who 3 felt that a GUI interface was preferable to a CLI. 4 Q. And the date of this e-mail is what, 5 Mr. Li? 01:26:48 6 A. As shown, September 22nd, 1992. 7 Q. Now, the sentence at the bottom of 8 Exhibit 144 on the first page says, "I like the user 9 interface, as I'm TOPS-20/ITS Emacs from the 10 beginning." 01:27:03 11 Do you see that? 12 A. Yes. 13 Q. Do you know what that means, Mr. Li? 14 A. I believe that was Peter's response, and 15 that's him indicating that he was familiar with 01:27:08 16 TOPS-20, which is the DEC operating system I 17 mentioned earlier, as well as ITS, which is an MIT 18 operating system. And then Emacs is a popular text 19 editor that several people were familiar with at the 20 time. 01:27:26 21 Q. What were the similarities between the 22 Cisco user interface and TOPS-20? 23 A. So -- 24 MR. PAK: Objection. Calls for expert 25 testimony. 01:27:35 Page 145</p>

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<p>1 THE WITNESS: So the Cisco user interface 2 was taken -- the model was TOPS-20, so many of the 3 external functionality in the CLI was similar to 4 TOPS-20. The specifics about the syntax and the 5 content were obviously somewhat different, and the 01:27:55 6 implementation was completely different.</p> <p>7 BY MR. WONG: Q. When you say "the 8 implementation," are you -- what are you referring 9 to?</p> <p>10 A. So the TOPS-20 implementation, the code for 01:28:02 11 that was written in a machine-specific language and 12 had very specific set of code. We did not attempt 13 to copy, reengineer or duplicate that in any way, 14 shape or form. We simply copied some of the 15 functionality. 01:28:23</p> <p>16 Q. So the source code -- strike that.</p> <p>17 So when you're referring to the 18 implementation being completely different, you're 19 referring to the underlying source code; is that 20 correct? 01:28:32</p> <p>21 A. Yes. The source code was completely 22 different.</p> <p>23 MR. PAK: Objection. Lacks foundation.</p> <p>24 BY MR. WONG: Q. Mr. Li, how do you know 25 that the source code was completely different 01:28:41</p>	<p>1 much of the semantics was the same.</p> <p>2 BY MR. WONG: Q. When you say "the syntax 3 was completely different," was -- strike that.</p> <p>4 Why was the syntax completely different in 5 the Juniper's command line interface? 01:30:24</p> <p>6 A. So one of the complaints that we received 7 about the IOS syntax is that it was somewhat 8 haphazard and inconsistent. That made it very 9 difficult for IOS to parse, and it also made it 10 very, very difficult for customers to do anything 01:30:39 11 with the language in any programmatic fashion.</p> <p>12 Customers wanted to generate and parse 13 configuration information on their own, and the 14 Cisco mechanisms for doing that were very 15 convoluted. The -- any reference to a syntactic 01:30:58 16 entity had to be taken in a very particular context 17 which was only given by a stream of actually parsing 18 the configuration itself. So if you lost any 19 positional information in the stream semantics, you 20 couldn't parse the actual terms. 01:31:21</p> <p>21 The Juniper configuration syntax was 22 strictly hierarchical. It was very, very obvious 23 how to parse it, so it was much more modular.</p> <p>24 Q. When you say "hierarchical" with reference 25 to the Juniper CLI, what do you mean by that? 01:31:39</p>
<p>1 between TOPS-20 and Cisco IOS?</p> <p>2 A. So I saw the Cisco IOS source code. It was 3 all written in C. It was all written by people at 4 Cisco.</p> <p>5 The TOPS-20 source code very much was 01:28:52 6 written in DEC 10 Assembler.</p> <p>7 Q. And you had familiarity with the TOPS-20 8 command syntax; correct?</p> <p>9 A. Yes, I did.</p> <p>10 Q. And what were the overlaps or similarities, 01:29:06 11 if any, between ITS or Emacs and Cisco IOS?</p> <p>12 A. So I'm not familiar with ITS. I've 13 actually never had an ITS account.</p> <p>14 Q. Okay. You can set that one aside.</p> <p>15 Mr. Li, when you joined Juniper, did you 01:29:29 16 work on the command line interface?</p> <p>17 A. I assisted, yes.</p> <p>18 Q. What were the similarities, if any, between 19 the Juniper command line interface and the Cisco IOS 20 command line interface? 01:29:53</p> <p>21 MR. PAK: Objection. Calls for expert 22 testimony.</p> <p>23 THE WITNESS: So the common features were 24 common references to industry-standard terms, common 25 concepts. The syntax was completely different, but 01:30:03</p>	<p>1 A. I meant that subsections in -- everything 2 was descended in a hierarchical fashion so every -- 3 every portion of the configuration was a section 4 which was a subsection of another subsection, and 5 that could cascade arbitrarily. 01:31:59</p> <p>6 Q. So when you say "subsection of another 7 subsection," can you provide me some examples of 8 what you mean by that?</p> <p>9 A. So for example, an IP address 10 configuration, that would be a subset of a 01:32:14 11 particular interface configuration which would be a 12 subset of the interface section. And so you 13 could -- you select -- in descending the hierarchy, 14 you selectively selected things by specifying more 15 and more specific information that you wanted to 01:32:34 16 configure.</p> <p>17 Q. So correct me if I'm understanding [sic] 18 your description of the hierarchy in the Juniper 19 CLI.</p> <p>20 You would go from at the top of the 01:32:47 21 hierarchy something broader, and then you would go 22 to something more specific.</p> <p>23 Is that what you're saying?</p> <p>24 A. That's correct.</p> <p>25 MR. PAK: Objection. Objection. Vague. 01:32:59</p>

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1 THE WITNESS: That's correct.	1 Q. To what extent would having an
2 BY MR. WONG: Q. Did the Cisco IOS CLI	2 explicit hierarchy have impacted the way the Cisco
3 have that type of hierarchy that you just described?	3 IOS parser work?
4 A. Not explicitly. It was buried into -- in	4 MR. PAK: Objection. Calls for
5 the semantics of the commands themselves, and so 01:33:15	5 speculation. Calls for expert testimony. 01:35:58
6 that made it very difficult to parse.	6 THE WITNESS: So I do have a Ph.D. in
7 MR. PAK: Also object that it calls for	7 programming languages. Come on.
8 expert testimony.	8 [REDACTED]
9 Go ahead.	[REDACTED]
10 BY MR. WONG: Q. Now, Mr. Li, you -- did 01:33:27	[REDACTED]
11 you help -- strike that.	[REDACTED]
12 What involvement did you have, if any, in	[REDACTED]
13 creating the command hierarchy for the Juniper CLI?	[REDACTED]
14 A. Very little. Much of that was done by	[REDACTED]
15 Paul Traina and another guy who I'm sorry, I forgot 01:33:44	[REDACTED]
16 his name. I should remember. But he was the lead	[REDACTED]
17 for creating the Juniper CLI.	[REDACTED]
18 Q. So how do you know that the Juniper CLI is	[REDACTED]
19 arranged in a hierarchical manner that you just	[REDACTED]
20 described? 01:34:00	[REDACTED]
21 A. It was one of the design discussions that	21 familiar -- strike that. 01:36:46
22 we had.	22 What was your experience in working with
23 Q. And you were part of those discussions?	23 the Cisco CLI parser when you were working at Cisco?
24 A. Yes.	24 A. So I found there -- the parser went through
25 Q. Now, you testified that the Cisco CLI was 01:34:06	25 at least two major changes that I know about. The 01:37:08
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1 not explicitly hierarchical?	1 initial parser was very simple. It was very
2 A. Correct.	2 straightforward to work with from a programmer point
3 Q. What do you -- what do you mean by not	3 of view, but it did not encourage any kind of
4 explicitly hierarchical?	4 commonality, and it required a great deal of fairly
5 A. So there was no syntactic mechanism for 01:34:22	5 primitive coding on the part of all engineers. 01:37:30
6 explicitly going -- leaving one context and moving	6 About 1992, '93, Terry Slattery -- and I
7 to the next context. For example, when you were	7 think that's his e-mail on Exhibit 144 -- he was
8 done configuring a particular routing protocol,	8 contracted to do a rewrite of the parser and make it
9 there was no way of telling the parser, "Hey, I'm	9 all table-driven. And they improved it somewhat,
10 done. Move on to the next thing." 01:34:40	10 but it was still extremely challenging. 01:37:55
11 The parser had to figure it out because the	11 Q. And you know all that from your time
12 next thing you started talking about didn't make	12 working at Cisco?
13 sense in the previous context, and so you had to	13 A. And interacting directly with Terry's team.
14 context-switch based on the exact commands	14 Q. And through your work at Cisco, you
15 presented. 01:34:56	15 became -- or how -- strike that. 01:38:13
16 Q. How would the lack of an explicit hierarchy	16 How familiar were you with how the parser
17 make it difficult for the parser in Cisco IOS to	17 and Cisco IOS worked?
18 function?	18 A. The original implementation I helped debug,
19 A. So again, it had to understand all of the	19 so that was -- I had more than a passing familiarity
20 possible terms that could be applied next. That 01:35:18	20 with it. Once Terry's team took over, I was able to 01:38:30
21 meant that it had to -- it had to have tables that	21 no longer do that, and his team owned that -- those
22 it checked, and every command that you gave you had	22 details. I simply was able to configure the tables.
23 to check at the current level, plus the level above	23 Q. When you were working at Cisco, what
24 that, plus the level above that. And in doing this	24 attention, if any, was paid to the command line
25 check it, well, took time. That was awkward. 01:35:36	25 interfaces used by other vendors in the networking 01:38:53
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<p>1 industry?</p> <p>2 A. Very, very little. The infrastructure, the</p> <p>3 look and feel of the Cisco CLI had already been set</p> <p>4 The model was very clear from TOPS-20. We didn't</p> <p>5 feel that we had to look too much to anybody else. 01:39:09</p> <p>6 Q. After you worked at Juniper, you worked at</p> <p>7 Procket Networks; correct?</p> <p>8 A. Correct.</p> <p>9 Q. Did the Procket router product have a</p> <p>10 command line interface? 01:39:39</p> <p>11 A. Yes, it did.</p> <p>12 Q. What was your role in the development of</p> <p>13 Procket Networks' router CLI?</p> <p>14 A. So as founder, director of software</p> <p>15 engineering and pretty much the guy trying to drive 01:39:51</p> <p>16 the entire software effort, I pretty much had full</p> <p>17 control over that.</p> <p>18 Q. And what decisions did you make when</p> <p>19 developing the Procket Networks router's CLI?</p> <p>20 A. So our goal was to make the Procket CLI be 01:40:14</p> <p>21 as compatible with the Cisco CLI as possible to</p> <p>22 maximize customer adoption.</p> <p>23 Q. What do you mean by "as compatible with the</p> <p>24 Cisco CLI as possible"?</p> <p>25 A. We attempted to completely mimic the 01:40:29</p>	<p>1 A. More precisely, we did not try to emulate</p> <p>2 the full command set since we were not a</p> <p>3 multiprotocol router. We tried to emulate the full</p> <p>4 command set found in the IP routing portion of Cisco</p> <p>5 IOS plus all of the basic system management 01:42:28</p> <p>6 commands.</p> <p>7 Q. And did you work directly in this process</p> <p>8 of mimicking the Cisco IOS CLI?</p> <p>9 A. No. I was not directly involved in most of</p> <p>10 the coding for that. 01:42:52</p> <p>11 Q. So how do you know that the IP routing</p> <p>12 command sets were replicated in the Procket Networks</p> <p>13 CLI?</p> <p>14 A. I mandated -- I effectively mandated that</p> <p>15 as a part of being supervisor. 01:43:07</p> <p>16 Q. What about command responses? Were the</p> <p>17 command responses in the Procket Networks router CLI</p> <p>18 the same as the command responses in the Cisco IOS</p> <p>19 CLI?</p> <p>20 A. They were the same, again, with exceptions 01:43:25</p> <p>21 as noted previously.</p> <p>22 Q. What type of -- can you give me an example</p> <p>23 of an exception that would apply to command</p> <p>24 responses?</p> <p>25 A. I believe that the way we did things, we 01:43:37</p>
<p>Page 154</p> <p>1 Cisco's CLI. We found several instances where even</p> <p>2 the customers hated the current Cisco CLI, and they</p> <p>3 encouraged us to change things, but these were very</p> <p>4 specific syntax and semantic -- very specific</p> <p>5 commands that they wanted corrected. 01:40:51</p> <p>6 Q. How does completely mimicking the Cisco CLI</p> <p>7 in Procket Networks' router ensure compatibility?</p> <p>8 A. So it meant that the customers could issue</p> <p>9 commands that were syntactically and semantically</p> <p>10 identical to what Cisco did. 01:41:23</p> <p>11 Q. And when you refer to the customers there,</p> <p>12 you're talking about Procket Networks customers;</p> <p>13 right?</p> <p>14 A. Yes.</p> <p>15 Q. In what ways did the Procket Networks' 01:41:33</p> <p>16 router's CLI mimic the Cisco IOS CLI?</p> <p>17 A. We attempted to replicate the syntax and</p> <p>18 semantics of the CLI completely at a functional</p> <p>19 level.</p> <p>20 Q. So what aspects of the Cisco IOS CLI are -- 01:41:50</p> <p>21 were mimicked in the Procket Networks CLI?</p> <p>22 A. Everything we could manage to functionally</p> <p>23 recreate we did, with a few exceptions as noted</p> <p>24 Q. Does that include the command set supported</p> <p>25 by Cisco IOS CLI? 01:42:13</p>	<p>Page 156</p> <p>1 changed, for example, the BGP peer group, the way</p> <p>2 that was configured, and there was command responses</p> <p>3 that were changed accordingly.</p> <p>4 Q. How would customers communicate to Procket</p> <p>5 Networks that it wanted a deviation from the Cisco 01:43:56</p> <p>6 IOS CLI?</p> <p>7 A. Typically we would receive an e-mail or</p> <p>8 have a direct personal communication.</p> <p>9 Q. Besides the command sets and the command</p> <p>10 responses, what else did -- strike that. 01:44:13</p> <p>11 Besides the command sets and command</p> <p>12 responses, what other aspects of the Cisco IOS CLI</p> <p>13 did Procket Networks mimic in its CLI?</p> <p>14 A. We mimicked semantics, syntax, command line</p> <p>15 completion, escape completion. As many -- as much 01:44:37</p> <p>16 of the CLI as we possibly could.</p> <p>17 Q. What is escape completion?</p> <p>18 A. So if you're in the middle of typing a</p> <p>19 command and you hit "escape," it completes the</p> <p>20 current word. "Tab," it does a completion, and then 01:44:52</p> <p>21 prompts you for the next qualifier. There were a</p> <p>22 variety of small features like that.</p> <p>23 Q. You testified earlier that customers of</p> <p>24 Cisco would get upset if even typos were corrected</p> <p>25 in command responses; correct? 01:45:12</p>

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<p>1 A. Correct.</p> <p>2 Q. Did the Procket Networks CLI -- strike</p> <p>3 that.</p> <p>4 To what extent did the Procket Networks CLI</p> <p>5 preserve errors that might have been present in the 01:45:26</p> <p>6 Cisco IOS CLI?</p> <p>7 A. My directive to my team was to be</p> <p>8 bug-for-bug compatible.</p> <p>9 Q. And what does bug-for-bug compatible mean?</p> <p>10 A. That meant that we would endeavor to 01:45:37</p> <p>11 recreate something that worked exactly like the</p> <p>12 Cisco CLI, including the bugs. And that extended</p> <p>13 down into the functionality below the CLI too.</p> <p>14 Q. During the time period that you gave the</p> <p>15 directive to replicate the Cisco CLI, were -- what 01:46:05</p> <p>16 other vendors were using a CLI that were similar to</p> <p>17 Cisco?</p> <p>18 MR. PAK: Objection. Calls for</p> <p>19 speculation.</p> <p>20 THE WITNESS: At the very least 01:46:25</p> <p>21 Foundry Networks was using this. I believe also</p> <p>22 Extreme and Force10 were using this.</p> <p>23 BY MR. WONG: Q. And how do you know that,</p> <p>24 Mr. Li?</p> <p>25 A. So I knew about Foundry directly and heard 01:46:36</p>	<p>1 MR. PAK: I'll just object to this line of</p> <p>2 questioning as lacking foundation.</p> <p>3 BY MR. WONG: Q. Did you ever look at the</p> <p>4 command line interfaces that were used by</p> <p>5 Foundry Networks? 01:48:13</p> <p>6 A. No, I did not.</p> <p>7 Q. So your knowledge of what Foundry was using</p> <p>8 came through -- I think you used the term "industry</p> <p>9 sources"; is that right?</p> <p>10 A. Call it hearsay. 01:48:28</p> <p>11 Q. What other industry sources besides the</p> <p>12 ones you mentioned did you hear -- strike that.</p> <p>13 Were there any other industry sources that</p> <p>14 you heard from regarding other vendors' use of</p> <p>15 Cisco-like CLIs? 01:48:50</p> <p>16 A. Network World, just a trade rag in the</p> <p>17 network industry. Stuff on the Internet. Mailing</p> <p>18 lists such as the NANOG mailing list is very</p> <p>19 popular.</p> <p>20 Q. So you have a specific recollection of 01:49:09</p> <p>21 Networking World articles talking about other</p> <p>22 vendors using Cisco-like CLIs?</p> <p>23 A. That was one of the possible sources. I</p> <p>24 don't remember the specific sources.</p> <p>25 Q. Do you remember the mailing lists you 01:49:20</p>
<p>Page 158</p> <p>1 about it using the Cisco CLI through industry</p> <p>2 sources.</p> <p>3 I had a friend who was working at Extreme,</p> <p>4 and then I also have another friend who was at</p> <p>5 Force10. 01:46:56</p> <p>6 Q. And when did you first come to know that</p> <p>7 Foundry was using a CLI that was similar to Cisco's?</p> <p>8 A. I don't remember the details but certainly</p> <p>9 prior to my joining Procket.</p> <p>10 Q. And you joined Procket in -- 01:47:11</p> <p>11 A. '99.</p> <p>12 Q. 1999. Thank you. And when did you first</p> <p>13 come to learn that Extreme Networks was using a CLI</p> <p>14 that was similar to Cisco IOS?</p> <p>15 A. I don't recall. 01:47:23</p> <p>16 Q. Was -- do you recall whether it was before</p> <p>17 or after you started at Procket Networks?</p> <p>18 A. I don't recall.</p> <p>19 Q. And at what time did you discover that</p> <p>20 Force10 was using a CLI that was similar to Cisco 01:47:35</p> <p>21 IOS?</p> <p>22 A. I don't recall.</p> <p>23 Q. You don't recall whether that was before or</p> <p>24 after you started at Procket?</p> <p>25 A. No, I can't. 01:47:48</p>	<p>Page 160</p> <p>1 mentioned discussing the use of under -- vendors</p> <p>2 using Cisco CLI?</p> <p>3 A. So again, that's one of the possible</p> <p>4 sources. I don't recall exactly where I heard it</p> <p>5 first. 01:49:33</p> <p>6 MR. PAK: Again, I'll object to this line</p> <p>7 of questioning as lacking foundation.</p> <p>8 BY MR. WONG: Q. Why did you think it was</p> <p>9 okay to use the syntax of Cisco IOS CLI in the</p> <p>10 Procket Networks CLI? 01:49:53</p> <p>11 MR. PAK: Objection. Calls for legal</p> <p>12 testimony and expert opinion.</p> <p>13 THE WITNESS: So we felt that we had ample</p> <p>14 precedent with Foundry using Cisco's CLI. And since</p> <p>15 Cisco was not pursuing that, we saw no reason not 01:50:06</p> <p>16 to.</p> <p>17 BY MR. WONG: Q. When you say "we," who is</p> <p>18 "we"?</p> <p>19 A. Management at Procket Networks.</p> <p>20 Q. And who was part of the management at 01:50:16</p> <p>21 Procket Networks?</p> <p>22 A. Bill Lynch, Sharad Mehrotra, I guess I</p> <p>23 would also include Stu Phillips as investor.</p> <p>24 Q. And was there a particular discussion that</p> <p>25 you discussed the Foundry precedent for using 01:50:38</p>

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<p>1 Cisco's CLI in the Procket Networks product?</p> <p>2 A. Yes, it was discussed.</p> <p>3 Q. And you have a specific memory of</p> <p>4 discussing the Foundry precedent of using Cisco's</p> <p>5 CLI when making the decision to use Cisco's CLI in 01:50:51</p> <p>6 Procket Networks' router?</p> <p>7 A. Yes.</p> <p>8 Q. Were there any similarities with the</p> <p>9 implementation of the command line interface between</p> <p>10 Procket Networks and Cisco IOS? 01:51:29</p> <p>11 A. No. In fact, we had looked at Terry's code</p> <p>12 quite carefully but decided we did not like that at</p> <p>13 all, and we reimplemented some mechanism that was</p> <p>14 completely backwards from what he was doing.</p> <p>15 Q. So the source code used by Procket Networks 01:51:47</p> <p>16 was different from the source code that was used by</p> <p>17 Cisco IOS?</p> <p>18 A. Correct.</p> <p>19 Q. Did Procket Networks ever ask Cisco for</p> <p>20 permission to use the command syntaxes of -- from 01:52:10</p> <p>21 Cisco IOS in Procket Networks' products?</p> <p>22 A. No, we did not.</p> <p>23 Q. And why didn't you? Or strike that.</p> <p>24 Why didn't Procket Networks ask Cisco for</p> <p>25 permission to use the command sets? 01:52:33</p>	<p>1 There is 146.</p> <p>2 (Exhibit 146 was marked for identification</p> <p>3 by the court reporter and is attached hereto.)</p> <p>4 MR. WONG: One more. Let's mark this one</p> <p>5 as 147, please. 01:54:59</p> <p>6 (Exhibit 147 was marked for identification</p> <p>7 by the court reporter and is attached hereto.)</p> <p>8 BY MR. WONG: Q. Court reporter has marked</p> <p>9 three documents as Exhibits 145, 146 and 147.</p> <p>10 Mr. Li, please take a moment to look at 01:55:24</p> <p>11 these three exhibits. Let's start with Exhibit 145.</p> <p>12 Mr. Li, do you recognize Exhibit 145?</p> <p>13 A. I do.</p> <p>14 Q. What is Exhibit 145?</p> <p>15 A. This is part of the documentation produced 01:55:39</p> <p>16 by Procket Networks for an introduction to the</p> <p>17 software that Procket produced.</p> <p>18 Q. And how do you know that this was part of</p> <p>19 the documentation produced by Procket Networks?</p> <p>20 A. That's our logo on the top. 01:55:56</p> <p>21 Q. And had you seen when you worked at</p> <p>22 Procket Networks any of the documentation that it</p> <p>23 released for its products?</p> <p>24 A. Yes, I helped manage that.</p> <p>25 Q. Do you have any doubt that Exhibit 145 is a 01:56:06</p>
<p>Page 162</p> <p>1 A. We felt that, given the Foundry precedent,</p> <p>2 that Cisco was not going to create an issue.</p> <p>3 Q. And Mr. Li, did Cisco ever object to</p> <p>4 Procket Networks' use of the Cisco CLI in the</p> <p>5 Procket Networks' router? 01:53:15</p> <p>6 A. No, they did not.</p> <p>7 Q. How do you know that?</p> <p>8 A. So I was part of the Cisco -- Procket</p> <p>9 Networks management. Some of the time I was a board</p> <p>10 member, and Cisco never notified us that there was 01:53:27</p> <p>11 an issue. Cisco had ample opportunity, had board</p> <p>12 observer rights at Procket and never issued any kind</p> <p>13 of comment.</p> <p>14 Q. When you say Cisco "had board observer</p> <p>15 rights at Procket," what do you mean by that? 01:53:48</p> <p>16 A. Cisco was an investor in Procket Networks</p> <p>17 and, as part of their investment, had a board</p> <p>18 observer status at Procket. I don't know if they</p> <p>19 ever did anything with the materials that we sent to</p> <p>20 them, but we never received a complaint. 01:54:02</p> <p>21 MR. WONG: Let's mark this as the next</p> <p>22 exhibit in order, please.</p> <p>23 (Exhibit 145 was marked for identification</p> <p>24 by the court reporter and is attached hereto.)</p> <p>25 MR. WONG: Let's mark several right now. 01:54:32</p>	<p>Page 164</p> <p>1 Procket Networks documentation?</p> <p>2 A. Well, I haven't examined it in microscopic</p> <p>3 detail, but it largely looks familiar.</p> <p>4 Q. What is the title of Exhibit 145?</p> <p>5 A. "Software Introduction." 01:56:25</p> <p>6 Q. Look at Exhibit 146, Mr. Li.</p> <p>7 Do you recognize Exhibit 146?</p> <p>8 A. Yes. This appears to be a copy of the</p> <p>9 Procket Networks IPv6 Routing Protocols</p> <p>10 implementation. 01:56:43</p> <p>11 Q. And how do you know that?</p> <p>12 A. This appears to be the documentation that</p> <p>13 my team produced to document how you do IPv6</p> <p>14 routing.</p> <p>15 Q. And when you say that your team produced 01:56:51</p> <p>16 this, what do you mean by your team?</p> <p>17 A. Again, I was helping to manage the software</p> <p>18 documentation team.</p> <p>19 Q. Do you have any doubt that Exhibit 146 is</p> <p>20 Procket Networks documentation? 01:57:07</p> <p>21 A. No, none at all. That's our logo on the</p> <p>22 top.</p> <p>23 Q. If you look at Exhibit 147, do you</p> <p>24 recognize Exhibit 147?</p> <p>25 A. Yes, I do. 01:57:25</p>

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<p>1 Q. What is Exhibit 147?</p> <p>2 A. This is the Procket Networks system 3 management and operations guide.</p> <p>4 Q. And how do you know that, Mr. Li?</p> <p>5 A. This looks like the documentation that my 01:57:32 6 team produced for management of the Procket router.</p> <p>7 Q. Are there any other Procket Networks 8 manuals in addition to the three that we just looked 9 at: Exhibits 145, 146 and 147?</p> <p>10 A. Yes. There's several. We're missing at 01:57:48 11 least the IPv4 routing protocols guide. I believe 12 there was a command reference guide.</p> <p>13 Q. Do you have copies of any of the other 14 command reference manuals that haven't been marked 15 today as exhibits? 01:58:06</p> <p>16 A. No, I do not. I was asked to destroy all 17 copies as part of the acquisition.</p> <p>18 Q. Who asked you to -- strike that.</p> <p>19 When you say "as part of the acquisition," 20 what do you mean? What do you mean by that? 01:58:17</p> <p>21 A. When Cisco acquired the intellectual 22 property of Procket Networks, lawyers and managers 23 on both sides directed everyone to destroy any 24 intellectual property they had relating to 25 Procket Networks. 01:58:37</p>	<p>1 document that Cisco produced during this case in the 2 course of discovery.</p> <p>3 A. Okay.</p> <p>4 Q. If you could turn to page 5 of Exhibit 148, 5 do you see that you are identified at the bottom row 02:01:08 6 in page 5?</p> <p>7 A. I see that.</p> <p>8 Q. And similarly on page 10 of this document, 9 do you see that you are identified second from the 10 bottom row? 02:01:25</p> <p>11 A. I see that.</p> <p>12 Q. Page 13 of this document, do you see that 13 you are identified twice in rows 2 and 3?</p> <p>14 A. I see those.</p> <p>15 Q. On page 20, Mr. Li, do you see that you are 02:01:38 16 identified in the last row of Exhibit 20?</p> <p>17 A. I see that.</p> <p>18 Q. I'm sorry. Excuse me.</p> <p>19 A. Page 20.</p> <p>20 Q. You are identified on the last row of page 02:02:02 21 20 of Exhibit 148.</p> <p>22 A. I see that.</p> <p>23 Q. And on page 21 of the same exhibit, the 24 last three rows, do you see that your name is there?</p> <p>25 A. I see that. 02:02:09</p>
<p>Page 166</p> <p>1 Q. And because of that, you don't have any 2 copies of Procket Networks documentation; is that 3 correct?</p> <p>4 A. That's correct.</p> <p>5 Q. Do you know if Cisco would have copies of 01:58:43 6 Procket Networks documentation?</p> <p>7 MR. PAK: Objection. Calls for 8 speculation.</p> <p>9 THE WITNESS: I have no idea.</p> <p>10 BY MR. WONG: Q. Did Cisco ever threaten a 01:58:52 11 lawsuit against Procket Networks for using the same 12 CLI commands and command responses that were in 13 Cisco IOS?</p> <p>14 A. Not to my knowledge.</p> <p>15 (Discussion off the record.) 02:00:00</p> <p>16 MR. WONG: Let's mark this as 148, please.</p> <p>17 (Exhibit 148 was marked for identification 18 by the court reporter and is attached hereto.)</p> <p>19 BY MR. WONG: Q. The court reporter has 20 marked as Exhibit 148 a document that says on the 02:00:27 21 front it is the -- "Cisco's Sixth Supplemental 22 Response to Interrogatory No. 16 and Response to 23 Interrogatory No. 19" dated January 12th, 2016, 24 Amended Exhibit F.</p> <p>25 Mr. Li, I'll represent to you this is a 02:00:49</p>	<p>Page 168</p> <p>1 Q. On page 22, do you see that your name is 2 identified in the fourth row from the top?</p> <p>3 A. I see that.</p> <p>4 Q. And on page 28, your name is identified 5 second row from the bottom. 02:02:35</p> <p>6 Do you see that?</p> <p>7 A. I see that.</p> <p>8 Q. Okay. Page 29, do you see your name 9 identified second row from the top?</p> <p>10 A. I see that. 02:02:41</p> <p>11 Q. Then on page 30, third row from the top, do 12 you see that your name has been identified?</p> <p>13 A. I see that.</p> <p>14 Q. And finally on page 38, second row from the 15 top, do you see that your name has been identified 02:03:03 16 there?</p> <p>17 A. I see that.</p> <p>18 MR. WONG: Okay. Now, for ease of 19 referring to the commands that are next to your 20 name, Mr. Li, let's mark as Exhibit 149 this 02:03:12 21 document.</p> <p>22 (Exhibit 149 was marked for identification 23 by the court reporter and is attached hereto.)</p> <p>24 MR. WONG: Now, Mr. Li, you can -- 25 actually, why don't we take the time right now to go 02:03:36</p>

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<p>1 it would look like. And then we would fire off that 2 e-mail to the relevant developers in the group, say, 3 you know, what do you think. They would either say, 4 "Yeah, sounds good" or "No, that stinks. What about 5 this?" 02:31:48</p> <p>6 Q. So when you referred to the 24-hour period 7 for getting consensus on a command syntax, are you 8 referring to the time it takes to get a response 9 from the team?</p> <p>10 A. Yes. 02:32:03</p> <p>11 Q. So you as a contributor of the 13 commands 12 on Exhibit 149 would not spend 24 continuous hours 13 working on the command syntax; correct?</p> <p>14 A. No. It would be much shorter than that.</p> <p>15 Q. So setting aside the delay that might occur 02:32:22 16 when getting feedback from other members of your 17 team, approximately how much time do you think was 18 spent coming up with the command syntax for the 19 commands listed on Exhibit 149?</p> <p>20 MR. PAK: Objection. Compound. Lacks 02:32:40 21 foundation.</p> <p>22 THE WITNESS: Not more than an hour or two 23 each.</p> <p>24 BY MR. WONG: Q. And on what facts are you 25 basing that testimony? 02:32:46</p>	Page 182	<p>1 Q. And the date of this e-mail is 2 January 20th, 1996; right?</p> <p>3 A. Mm-hmm.</p> <p>4 Q. So the command being discussed in this 5 e-mail is the "ip load-sharing" command; correct? 02:34:33</p> <p>6 A. Yes.</p> <p>7 Q. Now, in the first full paragraph in 8 Exhibit 150 that starts with the word "Yes," do you 9 see that?</p> <p>10 A. Mm-hmm. 02:34:44</p> <p>11 Q. It says, "I didn't have much choice as a 12 global command clearly wasn't sufficient and/or 13 acceptable."</p> <p>14 Do you see that?</p> <p>15 A. Yes, I do. 02:34:51</p> <p>16 Q. Do you know what that means?</p> <p>17 A. Yes. Again, Cisco's context -- Cisco's 18 command line and configuration is hierarchical. So 19 there are global commands, and then one of the 20 subcommand modes is interfaces. An interface is one 02:35:06 21 of the particular ports or external connectors on 22 the router, and each interface can be -- each 23 specific interface can be configured separately.</p> <p>24 So the proposal here is to configure 25 load-sharing on a per-interface basis. The reason 02:35:24</p>	Page 184
<p>1 A. On my experience implementing commands.</p> <p>2 MR. WONG: Let's mark this, please, as 3 Exhibit 150.</p> <p>4 (Exhibit 150 was marked for identification 5 by the court reporter and is attached hereto.) 02:33:08</p> <p>6 BY MR. WONG: Q. Court reporter has marked 7 as Exhibit 150 a document bearing Control 8 No. CSI-CLI-00746246.</p> <p>9 Mr. Li, please take a moment to look at 10 Exhibit 150. 02:33:25</p> <p>11 A. Okay.</p> <p>12 Q. What is Exhibit 150?</p> <p>13 A. This appears to be a mail from myself to 14 Bill Westfield, also known as Chops, and it appears 15 to be my response to his proposal. 02:33:50</p> <p>16 Q. So this is your response to Bill's 17 proposal; correct?</p> <p>18 A. I think. The -- the sample is lacking any 19 indenting or indication of what was quoted here.</p> <p>20 But based on the context, I'm not sure exactly what 02:34:04 21 was proposal here and what was response.</p> <p>22 Q. Okay. Well, setting aside who did the 23 original proposal, this was an e-mail that you sent; 24 correct?</p> <p>25 A. Yes. 02:34:21</p>	Page 183	<p>1 for doing this, as indicated, would be people felt 2 that having this be a global knob, i.e., affect all 3 of the router equally, was unacceptable.</p> <p>4 Q. When you said people felt that having a 5 global knob was unacceptable, what people are you 02:35:43 6 referring to?</p> <p>7 A. I'm not sure who that was at the time.</p> <p>8 MR. WONG: Let's mark this one as 151, 9 please.</p> <p>10 (Exhibit 151 was marked for identification 02:36:10 11 by the court reporter and is attached hereto.)</p> <p>12 BY MR. WONG: Q. And Mr. Li, you use the 13 word "hierarchical" in your response there.</p> <p>14 Is it -- is it still your belief that the 15 Cisco IOS is not explicitly hierarchical? 02:36:30</p> <p>16 A. It is not explicitly hierarchical in 17 configuration languages. Very convoluted as a 18 result.</p> <p>19 Q. So what did you mean there when you said 20 that "configuration is hierarchical" when you 02:36:41 21 explained what -- when you explained that sentence 22 in Exhibit 150?</p> <p>23 A. So again, the hierarchy is implicit; It's 24 not explicit. And so this configuration command 25 load-sharing would have an effect on a per-interface 02:36:57</p>	Page 185

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<p>1 Q. And is the show int account the same 2 command or different command than Entry 12 in 3 Exhibit 149?</p> <p>4 A. That's a different command.</p> <p>5 Q. What would typing an account do in this 6 brief in the serialized proposal that Mr. Hedrick 7 was making here --</p> <p>8 MR. WONG: Objection. Vague.</p> <p>9 BY MR. PAK: Q. -- if you know?</p> <p>10 A. I'm very confused. 03:30:09</p> <p>11 Q. When he type -- when he proposed "show int 12 account," do you have a sense of what he was 13 proposing in --</p> <p>14 A. He's not proposing that. That was an 15 existing command. 03:30:21</p> <p>16 Q. Okay. Existing command. As an existing 17 Cisco command?</p> <p>18 A. Yes.</p> <p>19 Q. Are you aware of any specific customer 20 documents that proposed the exact command expression 21 shown as show ip interface brief? 03:30:42</p> <p>22 A. Yes. This document.</p> <p>23 Q. And where does it say show ip interface 24 brief in this document?</p> <p>25 A. The last sentence. 03:31:04</p>	<p>1 That did not mean it gave them complete design 2 parameters, but they were -- they had available to 3 them many of the discussions that happened at the 4 board level, and that included discussions about the 5 CLI and whether we could implement something that 03:32:54 6 was Cisco-like.</p> <p>7 Q. Who was the board representative at Cisco?</p> <p>8 A. Graeme Fraser was the board representative.</p> <p>9 Q. On behalf of Procket, did you specifically 10 send a request to Cisco asking for permission to use 03:33:12 11 the CLI interface?</p> <p>12 A. No, we didn't see it was necessary.</p> <p>13 Q. How about the command output? Did you seek 14 any explicit permission --</p> <p>15 A. No, we didn't think it was necessary. 03:33:28</p> <p>16 Q. When you say "we didn't think it was 17 necessary," who were you referring to?</p> <p>18 A. The Procket board in examining the 19 precedent set by Foundry and others felt that since 20 Cisco was not interested in protecting anything or 03:33:45 21 had no issues with this, would not care and simply 22 we would be bothering them for no purpose.</p> <p>23 Q. But just so you're aware -- well, you 24 weren't aware at the time.</p> <p>25 Back in 2003 time period, you weren't aware 03:34:00</p>
<p>Page 226</p> <p>1 Q. Okay. So here you would do show ip, but it 2 says int brief.</p> <p>3 A. But again, the command is -- the CLI does 4 command completion. So "int" is a common 5 abbreviation for "interface." We don't really want 03:31:17 6 to type all that.</p> <p>7 Q. Who would determine in the CLI interface 8 which abbreviations would be spelled out by the 9 auto-completion versus those that would not be?</p> <p>10 A. It was automatic. The parser would 03:31:39 11 automatically complete as soon as things were 12 unambiguous.</p> <p>13 Q. Do you know how Juniper implemented this 14 particular command functionality?</p> <p>15 A. No, I do not. 03:31:53</p> <p>16 Q. Let's go back to a few other things here 17 that was discussed. You mentioned the work you did 18 at Procket.</p> <p>19 [REDACTED]</p> <p>20 [REDACTED]</p> <p>21 [REDACTED]</p> <p>22 [REDACTED]</p> <p>23 Q. And were you providing Cisco with technical 24 details of Procket's design at the time?</p> <p>25 A. So again, Cisco had board observer rights 03:32:35</p>	<p>Page 228</p> <p>1 of Cisco's assertion of its intellectual property 2 over the CLI interface as part of the Huawei 3 litigation, were you?</p> <p>4 MR. WONG: Objection. Vague.</p> <p>5 THE WITNESS: I was unaware of any the 03:34:15 6 details of Huawei, and by 2003 it was irrelevant 7 anyway.</p> <p>8 BY MR. PAK: Q. Were you aware that as 9 part of that settlement Huawei was required to 10 change its CLI interface? 03:34:24</p> <p>11 A. No, I was not.</p> <p>12 Q. You didn't look into that at the time?</p> <p>13 A. Didn't care.</p> <p>14 Q. You mentioned something earlier about 15 network errors that would come about because of 03:34:39 16 certain CLI commands that were used by Cisco 17 customers.</p> <p>18 A. Test crash comes to mind, yes.</p> <p>19 Q. And what did you mean by that?</p> <p>20 A. Cisco implemented a CLI command that 03:34:50 21 actually crashed the system intentionally.</p> <p>22 Q. Were you aware of any CLI commands that 23 resulted in network errors with Cisco customers for 24 which the CLI commands were not changed --</p> <p>25 MR. WONG: Objection. Vague. 03:35:10</p>

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1 Q. Rough date's fine.	1 had no teeth, that Cisco management would ignore the
2 A. A couple weeks ago we had a preliminary	2 requests or the recommendations from the parser
3 conversation. Prior to that we had a phone call.	3 police anyway and ship anything that they darn well
4 Q. And who was involved?	4 felt like anyway.
5 A. The two gentlemen on my left, Brian and 03:39:42	5 Q. And you talked earlier about the tension 03:42:35
6 Ryan.	6 between the marketing groups and the engineering
7 Q. And what did they tell you?	7 groups within Cisco about how to design the CLI
8 A. I'm sorry?	8 interface for Cisco's products.
9 Q. What did they -- what did they say to you?	9 Do you recall that testimony?
10 A. You want a word-by-word transcription? 1 03:39:58	10 A. Mm-hmm. 03:42:49
11 don't have a memory like that.	11 Q. Based on your experience working at Cisco,
12 Q. At a high level, what was discussed?	12 did the engineering groups always win out, or did
13 A. We discussed the overall case. We had many	13 sometimes the marketing groups win in terms of the
14 of the same discussions you've already heard today.	14 CLI selection in?
15 Q. Did they -- did Arista's counsel ask you to 03:40:10	15 A. So largely, marketing was not too picky 03:43:03
16 be a testifying expert in this case? Did you do	16 about what we implemented as long as it was making
17 some type of arrangement?	17 the customer happy. There are a couple of
18 A. We have no arrangement whatsoever.	18 exceptions that come to mind, but by and large it
19 Q. Did you prepare a declaration or expert	19 was not an issue.
20 report in connection with this case? 03:40:30	20 Q. And what are some of the exceptions that 03:43:20
21 A. No, I did not.	21 you can think of?
22 Q. Were you given access to any Cisco	22 [REDACTED]
23 confidential information prior to this case other	[REDACTED]
24 than . . .	[REDACTED]
25 A. If any of this is Cisco confidential, I 03:40:52	25 Q. And what happened? 03:43:35

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1 have no idea. I have no Cisco confidential	1 A. Basically the salespeople beat us with a
2 information of my own outside of this case.	2 stick until we gave in.
3 Anything from previous employment has all been	3 Q. By the time -- actually, let me step back.
4 either returned or destroyed.	4 So when did you become involved with the
5 Q. So I take it you don't have any personal 03:41:07	5 parser police concept initially? 03:43:53
6 documents in your records relating to your work at	6 A. Pretty much from the founding. Again, I
7 Cisco?	7 complained to management, and they suggested that
8 A. Well, of course I have my own personal	8 that was a way to fix the problem. Unfortunately,
9 employment records, but nothing confidential that I	9 they didn't mean it.
10 know of. 03:41:17	10 Q. And what time period are we talking about 03:44:07
11 Q. Were you shown any documents from Cisco's	11 here?
12 files in preparing for today's deposition that	12 A. I have no idea.
13 refreshed your recollection?	13 Q. Was it in the early '90s?
14 A. Nothing that's not already here.	14 A. Yes. Early '90s.
15 Q. Were you shown some of these documents? 03:41:28	15 Q. Mr. Li, did any other engineers at Cisco 03:44:14
16 A. I believe Exhibit 149. I saw something	16 join you in your efforts to come up with the parser
17 similar to this.	17 police and provide comments?
18 Q. Going back to the -- your work on the	18 A. Several others, but I don't recall who.
19 parser police, to your knowledge did Cisco require	19 Q. When e-mails went around on the parser
20 that every CLI command expression be approved by the 03:41:57	20 police, were you the only one commenting on these 03:44:37
21 parser police before it's adopted?	21 commands?
22 A. That depends on your definition of the word	22 A. No. Several people would.
23 "require." Certainly prior to the existence of	23 Q. Do you recall some of the other authors?
24 parser police, no. Even after parser police was	24 A. Not offhand.
25 created, what we found out was that parser police 03:42:22	25 Q. Can you think of specific instances where 03:44:44

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1 standards organization like IETF?	1 THE VIDEOGRAPHER: Okay. This marks the
2 A. I have never seen anyone do that. I have	2 end of DVD No. 4 in the deposition of Anthony Li.
3 never seen Cisco have any UI patents; so I don't	3 Going off the record. The time is 4:17. 04:17:29
4 understand.	4 (TIME NOTED: 4:17 p.m.)
5 Q. Mr. Li, is there any other views or 04:15:36	5 --000--
6 opinions that you have with respect to this case	6
7 that you have not shared with us on the record that	7
8 you would like to share with us now?	8
9 MR. WONG: Objection. Vague.	9
10 THE WITNESS: I don't understand your 04:15:55	10
11 question.	11
12 BY MR. PAK: Q. We talked about a lot of	12
13 different topics. I'm giving you the opportunity to	13
14 provide any further testimony that you would like on	14
15 any of these topics if you'd like it. 04:16:05	15
16 A. So I don't understand what intellectual	16
17 property people think there is in some CLI syntax.	17
18 The intellectual property is -- that's of	18
19 significance gets covered in patents. If we thought	19
20 it was worth protecting, we would copyright it. We 04:16:22	20
21 would patent it.	21
22 MR. WONG: Object to the form of the	22
23 question.	23
24 BY MR. PAK: Q. Do you believe that	24
25 copyright is a form of intellectual property? 04:16:34	25
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1 MR. WONG: Objection. Calls for opinion	1 I, ANTHONY J. LI, do hereby declare under
2 testimony.	2 penalty of perjury that I have read the foregoing
3 THE WITNESS: It calls for legal testimony.	3 transcript; that I have made any corrections as appear
4 I don't understand.	4 noted, in ink, initialed by me, or attached hereto; that
5 BY MR. PAK: Q. What is your understanding 04:16:44	5 my testimony as contained herein, as corrected, is true
6 of copyright law?	6 and correct.
7 MR. WONG: Same objection.	7 Executed this _____ day of _____,
8 THE WITNESS: Vague as best.	8 2016, at _____, _____.
9 BY MR. PAK: Q. I take it, sir, that you	9 (city) (state)
10 haven't analyzed any copyright laws relating to 04:16:56	10
11 interface, APIs, user interfaces?	11
12 A. I know that I'm supposed to put a copyright	12
13 notice in the top of every source code file. That's	13
14 about all I know.	14
15 Q. Okay. 04:17:08	15 _____
16 A. I can't even tell you for certain what I'm	16 ANTHONY J. LI
17 supposed to put in the top of the file because	17
18 nobody can tell me exactly how I should deal with	18
19 multiple years.	19
20 MR. PAK: Thank you. Sir, I think those 04:17:18	20
21 are the questions I have for you today.	21
22 MR. WONG: I have no further questions.	22
23 ////	23
24	24
25	25
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<p>1 I, the undersigned, a Certified Shorthand 2 Reporter of the State of California, do hereby 3 certify:</p> <p>4 That the foregoing proceedings were taken 5 before me at the time and place herein set forth; 6 that any witnesses in the foregoing proceedings, 7 prior to testifying, were administered an oath; that 8 a record of the proceedings was made by me using 9 machine shorthand which was thereafter transcribed 10 under my direction; that the foregoing transcript is 11 a true record of the testimony given.</p> <p>12 Further, that if the foregoing pertains to 13 the original transcript of a deposition in a Federal 14 Case, before completion of the proceedings, review 15 of the transcript [X] was [] was not requested.</p> <p>16 I further certify I am neither financially 17 interested in the action nor a relative or employee 18 of any attorney or any party to this action.</p> <p>19 IN WITNESS WHEREOF, I have this date 20 subscribed my name.</p> <p>21 Dated: February 3, 2016</p> <p>22</p> <p>23</p> <p>24  Susan F. Magee</p> <p>25 CSR No. 11661, RPR, CCRR, CLR</p>	
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